

# Department of Environmental Quality

*To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.*



Matthew H. Mead, Governor



Todd Parfitt, Director

## Memorandum

Date: May 18, 2017

TO: Wyoming Environmental Quality Council (EQC)

FROM: Ryan Schierman, Program Manager, WY DEQ/Uranium Recovery Program

RE: Responses to Comments to Rule-Making for Revised URP Rules, EQC Meeting May 24, 2017, Sheridan, Wyoming

The Wyoming Department of Environmental Quality/Uranium Recovery Program (DEQ/URP) has received a total of five responses regarding the revisions to the URP rules which will be presented before the EQC on Wednesday, May 24, 2017, in Sheridan, Wyoming. The responses were provided to the URP by the following interested parties:

1. U.S. Nuclear Regulatory Commission (NRC), letter dated April 20, 2017;
2. Wyoming Mining Association (WMA), letter dated March 9, 2017;
3. Powder River Basin Resource Council (PRBRC), letter dated May 1, 2017;
4. Wyoming Association of Professional Archaeologists, letter dated, March 13, 2017; and
5. Uranium Watch, letter dated April 30, 2017.

The URP greatly appreciates the contributions and comments provided by above-listed parties. The URP has enclosed a detailed Response to Comments document that addresses the concerns of the interested parties. The URP will address these concerns and any other questions related to the revised URP rules at the EQC meeting on May 24, 2017. Thank you.

Respectfully submitted,

Ryan Schierman  
Uranium Recovery Program Manager

## NRC Comments

Wyoming has been working with the Nuclear Regulatory Commission (NRC) since 2014 on the process to become an NRC Agreement State. As part of this process the Wyoming Department of Environmental Quality (WDEQ) sent a draft application on October 26, 2016. The draft application included proposed regulations, programmatic procedures, statutes, and other program details. The draft application was sent with the hope that comments could be received prior to the Environmental Quality Council Meeting (EQC) such that any comments in regards to the regulations could be addressed before the regulations became finalized. On April 20, 2017, WDEQ received NRC comments on the draft application. The comments were directed to the whole program, but WDEQ removed only the pertinent comments pertaining to the regulations for consideration by the EQC. Please find the relevant comments below.

### NRC Comment 5

- 5. *On page 33 of 1080, Wyoming Statute 35-11-103(e)(viii), the definition states, “‘Operation’ means all of the activities, equipment, premises, facilities, structures, roads, rights-of-way, waste and refuse areas excluding uranium mill tailings and mill facilities, within the Nuclear Regulatory Commission license area, storage and processing areas, and shipping areas used in the process of excavating or removing overburden and minerals from the affected land or for removing overburden for the purpose of determining the location, quality or quantity of a natural mineral deposit or for the reclamation of affected land.” Please clarify what the phrase “excluding mill tailings and mill facilities, within the Nuclear Regulatory Commission license area” means in terms of the Wyoming’s implementation of NRC regulatory requirements. Would the definition of “operation” be revised if Wyoming assumes regulatory authority over source material involved in milling and the associated 11e.(2) byproduct material? Please also clarify how this exclusion affects the other definitions in this section.***

### WDEQ RESPONSE:

Pursuant to 35-11-103(e), the definition of “Operation” identified by the NRC’s comment is only applicable to the Land Quality Division and not the Uranium Recovery Program. Additionally, at the time of agreement, there will not be any “Nuclear Regulatory Commission license areas.” Instead, the areas will be Uranium Recovery Program license areas. Regardless, we will propose that the definition of “Operation,” as it pertains to the Uranium Recovery Program specifically, be included in Chapter 1 definitions of the proposed rules, as follows:

**"Operation" means all of the activities, equipment, premises, facilities, structures, roads, right-of-way, waste and refuse areas, storage and processing areas, and shipping areas used in the process of excavating or removing overburden and**

minerals from the affected land or for removing overburden for the purpose of determining the location, quality or quantity of natural, deposit or for the reclamation of affected lands.

### **NRC Comment 13**

**13. On page 266 of 1080, Wyoming Statute 35-11-2003(e), it states that the NRC will retain regulatory authority over independent or commercial laboratory facilities that are handling 11e.(2) byproduct material, but does not mention source material involved in uranium milling.**

**Please clarify if Wyoming intends to have regulatory authority over the source material involved in milling at independent or commercial laboratory facilities or if there will be revisions to the legislation so that the NRC would be the sole regulatory authority over these facilities.**

WDEQ Response

Wyoming does not intend to regulate source material at independent or commercial laboratory facilities. While the URP contends most source material would be covered under the small quantities provisions listed in Chapter 10 of the proposed rules, the URP will propose the following change to provide additional clarity to the proposed rules:

*URP Chapter 1, Section 3*

*(a) Except as otherwise specifically provided, these rules apply to all persons who receive, possess, use, offer, and receive for transfer, own, or acquire, any byproduct material or source material from the extraction and concentration of source material at uranium and thorium milling facilities. Nothing in these rules shall apply to any person to the extent such person is subject to regulation not relinquished by the United States Nuclear Regulatory Commission (NRC). These rules do not govern the mining or removal of source material in its natural state or independent or commercial laboratory facilities that possess, use, or accept byproduct or source material.*

### **NRC Comments 17, 29, & 49**

**17. On page 268 of 1080, Wyoming Statute 35-11-2004(b), it states, “[P]rior to terminating any license the administrator of the land quality division shall obtain a determination from the nuclear regulatory commission that the licensee has complied with the commission's decontamination, decommissioning, disposal and reclamation standards.”**

**Partial site release for ISR facilities is common. If an amendment to a future Wyoming materials license resulted in shrinkage of an ISR licensed boundary (i.e., partial release), the NRC review team should have the ability to review a partial site release to make a determination that all applicable standards and requirements pertaining to such material have been met consistent with SA-900. Please provide Wyoming’s process for handling partial site releases.**

**29. On page 333 of 1080, Article II, Section B.1, it states, “[P]rior to the termination of a State license for such byproduct material, or for any activity that results in the production of such material, the Commission shall have made a determination that all applicable standards and requirements pertaining to such material have been met.”**

**Same comment as (17) above. Partial site release for ISR facilities is common. If an amendment to a future Wyoming materials license resulted in shrinkage of an ISR licensed boundary, the NRC review team should have the ability to review a partial site release to make a determination that all applicable standards and requirements pertaining to such material have been met consistent with SA-900. Please describe your process for handling partial site releases. Please include this as a part of Wyoming licensing procedures.**

**49. On page 391 of 1080, Chapter 4, Section 16(k), allows for an applicant to request a subsite or a portion of a licensed area be released for unrestricted use before full license termination. Please describe your process for handling partial site releases.**

WDEQ Response

The URP will propose adding the following language to provide clarity partial site releases:

URP Chapter 4 Section 16(k)

*(k) A licensee may request that a subsite or a portion of a licensed area be released for unrestricted use before full license termination as long as release of the area of concern will not adversely impact the remaining unaffected areas and will not be recontaminated by ongoing authorized activities. When the licensee is confident that the area of concern will be acceptable to the Department for release for unrestricted use, a written request for release for unrestricted use and Department confirmation of closeout work performed shall be submitted to the Department. The request should include a comprehensive report, accompanied by survey and sample results that show contamination is less than the limits specified 10 C.F.R. Par 40, Appendix A and an explanation of how ongoing authorized activities will not adversely affect the area proposed to be released. Upon confirmation by the Department that the area of concern is releasable for unrestricted use, the licensee may apply for a license amendment, if required.*

- (i) The Department will submit partial site releases to the NRC in accordance to SA-900 for approval; and*
- (ii) Prior to terminating any license, the Administrator of the Land Quality Division shall receive approval and a determination from the NRC that the licensee has complied with the NRC's decontamination, decommissioning, disposal and reclamation standards in accordance with SA-900.*

### **NRC Comments 32 & 33**

**32. On page 345 of 1080, Chapter 1, Section 2, it states, “[I]t is the purpose of these rules to state such requirements as shall be applied in the use of byproduct material**

**and source material involved in the extraction and concentration of uranium and thorium in source material and ores at uranium and thorium milling facilities (referred throughout these rules as licensed material) such that the Department can ensure the protection of the public health and safety to all persons at, or in the vicinity of, the place of use, storage, or disposal.”**

**This provision is inconsistent with the Wyoming legislation under the provisions in Wyoming Statute 35-11-2001 and the AEA definition of byproduct material in Section 11e.(2).**

**Please revised the sentence to state “... extraction or concentration of uranium or thorium ...and the management and disposal of 11e.(2) byproduct material” to be consistent with the Wyoming legislation and the AEA definition of byproduct material in Section 11e.(2). These changes must be made throughout the document for consistency.**

**33. On page 345 of 1080, Chapter 1, Section 3, it states, “[E]xcept as otherwise specifically provided, these rules apply to all persons who receive, possess, use, offer and receive for transfer, own, or acquire any byproduct material or source material from the extraction and concentration of source material at uranium and thorium milling facilities. Nothing in these rules shall apply to any person to the extent such person is subject to regulation not relinquished by the United States Nuclear Regulatory Commission (NRC). These rules do not govern the mining or removal of source material in its natural state.”**

**This provision is inconsistent with the language in the Wyoming legislation under the provisions in Wyoming Statute 35-11-2001 and the AEA definition of byproduct material in Section 11e.(2).**

**Please revise the sentence to state, “... extraction or concentration of uranium or thorium...” to be consistent with the Wyoming legislation and the AEA definition of byproduct material in Section 11e.(2). Please also add “... and the management and disposal of 11e.(2) byproduct material....”.**

WDEQ Response

The URP will propose that “uranium and thorium” be changed to “uranium or thorium” throughout the proposed rules. Additionally, the URP will propose that "extraction and concentration" be changed to "extraction or concentration" throughout the proposed rules. Finally, the URP will add the term "management and disposal of byproduct material" throughout the proposed rules as applicable, and specifically to Chapter 1, Sections 2 and 3 as suggested by the NRC.

#### **NRC Comment 34**

**34. On page 368 of 1080, Chapter 1, Section 12(c), it states, “[A]dditional records requirements are specified elsewhere in these rules. If the record retention period is not specified, the record shall be maintained for a period of three years.”**

The NRC review team notes records are to be retained for three years, unless otherwise specified in these rules. The NRC review team was unable to verify where rules are located within the draft application that would require longer retention periods to be consistent with the NRC's regulatory requirements. Spill records are an example of records that must be maintained until license termination (i.e., a period that may exceed three years) for purposes of restoration and decommissioning in accordance with 10 CFR 40.36(f).

**Please identify other Wyoming regulatory provisions related to record retention and, if inconsistent with NRC requirements, make the appropriate revisions to these Wyoming regulations.**

WDEQ Response

The proposed rules incorporate 10 C.F.R. § 40.36(f) by reference in Chapter 4, Section 2 of the proposed rules.

### **NRC Comment 35**

**35. On page 369 of 1080, Chapter 2, Section 2, it states, “[T]he Department may inspect, enforce, and penalize both licensees and the unlawful possession; use, transfer, ownership or other such unpermitted handling of byproduct material and source material involved in the extraction and concentration of uranium and thorium at uranium and thorium facilities in accordance with these rules, the Act, and applicable state and federal laws.”**

**Please revise the sentence to clarify that the Department has authorization over both licensees and non-licensees by adding the phrase “non-licensees for the” before “unlawful possession. The sentence should read, “[T]he Department may inspect, enforce, and penalize both licensees and the unlawful possession; use, transfer, ownership or other such unpermitted handling of byproduct material and source material involved in the extraction or concentration of uranium or thorium at uranium and thorium facilities in accordance with these rules, the Act, and applicable state and federal laws.”**

WDEQ Response

The URP will propose the following changes to Chapter 2, Section 2 of the proposed rules:

*(a) [T]he Department may inspect, enforce, and penalize both licensees and ~~the non-licensees~~, for the unlawful possession, use, transfer, ownership, or other such unpermitted handling of byproduct material and source material involved in the extraction ~~or and~~ concentration of uranium ~~or and~~ thorium facilities in accordance with these rules, the Act, and applicable state and federal laws.*

### **NRC Comments 36 & 38**

- 36. On page 370 of 1080, Chapter 2, Section 5(b), it states, “[L]icensee initiative for self-identification and correction of problems is encouraged. The Department will generally not issue Notices of Violations for a violation that:**
- a. Was identified by the licensee;**
  - b. Results in low or *no* health and safety consequences;**
  - c. Was documented , in writing, for review by the Department ;**
  - d. Was or will be corrected , including measures to prevent recurrence, within ninety (90) days, or another time frame approved by the Department; and**
  - e. Was not a violation that could reasonably be expected to have been prevented by the licensee's corrective action for a previous violation?”**

**Wyoming regulations provides a detailed listing for situations that would not generally receive a Notice of Violation. Such provisions would be better in guidance, such as an enforcement policy, to provide greater flexibility to the regulatory agency.**

**To aid the program, the NRC review team recommends deleting this section from the regulations and incorporating the above list in guidance.**

- 38. On page 370 of 1080, Chapter 2, Section 5 (d) states, “[L]icensees are not ordinarily cited for violations resulting from matters outside of their control, such as equipment failures that were not avoidable by reasonable quality assurance measures or management controls.”**

**Wyoming regulations state that management controls would be listed as a reason for not citing a violation. Such provisions would be better in guidance, such as an enforcement policy, to provide flexibility to the regulatory agency.**

**To aid the program, the NRC review team recommends deleting this section from the regulations. Please also explain why equipment failures in these situations would not be ordinarily cited for violations because they are “outside” the control of the licensee.**

WDEQ Response

The URP will propose that the reference to “management controls “be removed from Chapter 2, Section 5(c) of the proposed rules, as follows:

*(c) Licensees are not ordinarily cited for violations resulting from matters outside of their control, such as equipment failures that were not avoidable by reasonable quality assurance measures ~~or management controls~~. However, licensees are held responsible for acts of their employees. Accordingly, the rules should not be construed to excuse personal errors.*

#### **NRC Comments 37 & 47**

- 37. On page 370 of 1080, Chapter 2, Section 5(c) is missing. Please provide missing section.**

- 47. On page 382 of 1080, Chapter 4, Section 9, editorial comment: Letter (c)**

that occurs after (g) and before (h) appears out of order.

WDEQ Response

The URP will correct the formatting errors identified above.

#### **NRC Comments 39 & 40**

**39. On page 374 of 1080, Chapter 4, Section 1, it states, “[T]his Chapter establishes the criteria for issuance and terms of conditions upon which the Department may issue licenses to receive title to, acquire, own, possess, transfer, offer or receive for transport, or deliver any licensed material. This Chapter also governs the operation of facilities for handling and disposing of licensed material. This Chapter also provides requirements for decommissioning and the long-term care and maintenance of byproduct material. Unless otherwise specified, the requirements of this Chapter are in addition to, and not in substitution for, other applicable requirements of these rules.”**

**This provision is inconsistent with the NRC regulations that also provides regulatory authority over the “use” of radioactive material. In 10 CFR 40.3, it states, “[A] person subject to the regulations in this part may not receive, possess, use, transfer, provide for long-term care, deliver or dispose of byproduct material of residual radioactive material. . .”**

**Please add the word “use” before “transfer” such that it is consistent with NRC regulations. The sentence should read, “[T]his Chapter establishes the criteria for issuance and terms of conditions upon which the Department may issue licenses to receive title to, acquire, own, possess, use, transfer, offer or receive for transport, or deliver any licensed material.”**

**40. General comment: Please add the word “use” before “transfer” such that it is consistent with NRC regulations (as referenced above in 10 CFR 40.3) throughout these documents. The related sentences should read, “[T]his Chapter establishes the criteria for issuance and terms of conditions upon which the Department may issue licenses to receive title to, acquire, own, possess, use, transfer, offer or receive for transport, or deliver any licensed material.”**

WDEQ Response:

To be consistent with the NRC regulations, the URP will propose that the verb "use" be added throughout the proposed rules as applicable.

#### **NRC Comment 41**

**41. On page 374 of 1080, Chapter 4, Section 2(b), it states, “[T]his Chapter governs byproduct material located at a site where milling operations are no longer active, if such site is not covered by the remedial action program of Title I of the Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978 (42 U.S.C. §§ 7901 *et seq.*). This Chapter does not establish criteria and procedures for the**

**issuance of licenses for materials covered under Title I of UMTRCA of 1978, unless that program fails to accomplish the remedial action. Disposal at a uranium or thorium processing site of licensed material which is not byproduct material must not inhibit reclamation of the tailings impoundment or the ability of the United States Government to take title to the impoundment as long-term custodian.”**

**This requirement indicates that Wyoming can regulate UMTRCA Title I sites if the current program is failing in its remedial actions. This is in conflict with Wyoming’s statements in its draft 274b. Agreement which states that the NRC has regulatory authority over UMTRCA Title I sites.**

**Please revise this sentence so it is clear the NRC retains authority over UMTRCA Title I sites even if the remedial action fails. Please strike out the phrase “..., unless that program fails to accomplish the remedial action.” The revised sentence should read, “[T]his Chapter does not establish criteria and procedures for the issuance of licenses for materials covered under Title I of UMTRCA of 1978.”**

**Chapter 4, Section 2(b) also states, “[D]isposal at a uranium or thorium processing site of licensed material which is not byproduct material must not inhibit reclamation of the tailings impoundment or the ability of the United States Government to take title to the impoundment as long-term custodian.” Please explain what licensable material Wyoming expects to regulate with regard to disposal at a uranium or thorium processing site which is not byproduct material. This material appears to be outside of the scope of material defined in the Agreement.**

WDEQ Response:

The URP will delete Chapter 4, Section 2(b) of the proposed rules and instead incorporate 10 C.F.R. Section § 40.2(a) by reference in Chapter 4, Section 3(a) of the proposed rules.

*10 CFR 40.2(a)*

*(a) Prior to the completion of the remedial action, the Commission will not require a license pursuant to 10 CFR chapter I for possession of residual radioactive materials as defined in this part that are located at a site where milling operations are no longer active, if the site is covered by the remedial action program of title I of the Uranium Mill Tailings Radiation Control Act of 1978, as amended. The Commission will exert its regulatory role in remedial actions primarily through concurrence and consultation in the execution of the remedial action pursuant to title I of the Uranium Mill Tailings Radiation Control Act of 1978, as amended. After remedial actions are completed, the Commission will license the long-term care of sites, where residual radioactive materials are disposed, under the requirements set out in § 40.27.*

*(b) The Commission will regulate byproduct material as defined in this part that is located at a site where milling operations are no longer active, if such site is not covered by the remedial action program of title I of the Uranium Mill Tailings Radiation Control Act of 1978. The criteria in appendix A of this part will be applied to such sites.*

## NRC Comments 42 & 56

**42.** On page 374 of 1080, Chapter 4, Section 4 is Wyoming’s only regulatory section containing provisions regarding deliberate misconduct in the chapters covering the uranium recovery program. This section does not cover regulatory requirements in 10 CFR 40.10 or 71.8. In particular, the provisions do not reference Chapter 9 “Transportation,” and the provisions do not contain a section regarding deliberate misconduct that is equivalent to 10 CFR 71.8.

Please either add deliberate misconduct regulatory provisions in Chapter 9 that are equivalent to 10 CFR 71.8 or revise the regulatory provisions in Chapter 4 to also be equivalent to 10 CFR 71.8 and then refer to these provisions in Chapter 9.

**56.** On page 410 of 1080, Chapter 9, see prior comments (comment 42) on the need to have an equivalent provision to 10 CFR 71.8 regarding deliberative misconduct.

WDEQ Response

URP has already incorporated 10 C.F.R. § 71.8 by reference in Chapter 9, Section 3(a) of the proposed rules.

## NRC Comment 43

**43.** On page 376 of 1080, Chapter 4, Section 6(a), it states, “[A]ny person is exempt from this Chapter to the extent that such person receives title to, acquires, owns, possesses, uses ; or transfers source material in any chemical mixture, compound, solution, or alloy in which the source material is by weight less than one-twentieth of one percent (0.05 percent) of the mixture, compound, solution, or alloy.”

Please revise the sentence to be consistent with 10 CFR 40.13(a) to add language stating that the exemption does not apply to Australian-obligated source material, or byproduct materials as defined in this part 10 CFR 40.13(a) is Compatibility Category B. This program element has significant transboundary implications and the element should be essentially identical to the NRC’s.

WDEQ Response

The URP will propose the following change to Chapter 4, Section 6(a) of the proposed rules:

(a) Any person is exempt from this Chapter to the extent that such person receives title to, acquires, owns, possesses, uses, or transfers source material in any chemical mixture, compound, solution, or alloy in which the source material is by weight less than one-twentieth of one percent (0.05 percent) of the mixture, compound, solution, or alloy. The exemption contained in this paragraph does not apply to Australian-obligated source material, nor does it include byproduct materials as defined in these rules.

## NRC Comment 44

44. On page 376 of 1080, Chapter Section 6(d), it states, “[T]he Department may, upon its own initiative or the application of an interested person, grant such exemptions from the requirements of this Chapter as authorized by law and, as determined by the Department, will not endanger life, property, the common defense and security, and is otherwise in the public interest.”

Section 274m of the AEA, 42 U.S.C. § 2014(e)(2), as amended, and 10 CFR 40.14 requires that the NRC retain regulatory authority over common defense and security under 274b. Agreements. Please remove the phrase “common defense and security” such that the sentence states, “[T]he Department may, upon its own initiative or the application of an interested person, grant such exemptions from the requirements of this Chapter as authorized by law and, as determined by the Department, will not endanger life, property, and is otherwise in the public interest.

WDEQ Response

The URP will propose the following change be made to Chapter 4, Section 6 of the proposed rules:

*(d) The Department may, upon its own initiative or the application of an interested person, grant such exemptions from the requirements of this Chapter as authorized by law and, as determined by the Department, will not endanger life, property, ~~the common defense and security~~ and is otherwise in the public interest.”*

Additionally, all references to “common defense and security” throughout the proposed rules will be removed.

#### **NRC Comment 45**

45. On page 376 of 1080, Chapter 4, Section 8(a), it states, “[A]n application for a specific license may be approved if the Department determines that: (i) The applicant is qualified by reason of training and experience, to use licensed material for the purpose requested in the subject application consistent with the governing statutes and rules and in such a manner as to minimize danger to public health and safety, or property; (ii) The applicant’s proposed equipment, facilities, and procedures are adequate to minimize danger to public health and safety or property; (iii) The applicant satisfies the requirements listed in this Chapter; (iv) The issuance of the license will not be detrimental to the health and safety of the public; and (v) The applicant is financially qualified to conduct the licensed activity; including any required decontamination, decommissioning, reclamation, or disposal.”

This provision is inconsistent with 10 CFR Part 40, Appendix A, Criterion 9 which was adopted by reference in the Wyoming regulations. Please revise to clarify that the application shall include a proposed decommissioning funding plan or a proposal certification of financial assurance for decommissioning, or refer to the financial assurance requirements in Chapter 6.

## WDEQ Response

The URP will propose the following changes to Chapter 4, Section 8(a) of the proposed rules:

*(a) [A]n application for a specific license may be approved if the Department determines that: (i) The applicant is qualified by reason of training and experience, to use licensed material for the purpose requested in the subject application consistent with the governing statutes and rules and in such a manner as to minimize danger to public health and safety, or property; (ii) The applicant's proposed equipment, facilities, and procedures are adequate to minimize danger to public health and safety or property; (iii) The applicant satisfies the requirements listed in this Chapter; (iv) The issuance of the license will not be detrimental to the health and safety of the public; ~~and~~ (v) The applicant is financially qualified to conduct the licensed activity; including any required decontamination, decommissioning, reclamation, or disposal; and (vi) The applicant has satisfied the requirements of Chapter 6 of these rules.*

## NRC Comment 46

**46. On page 381 of 1080, Chapter 4, Section 9(b)(xiv), it states, “[P]roposal of an acceptable form and amount of financial assurance in accordance with 10 CFR Part 40, Appendix A, Criterion 9; and the Department's rules;”**

**The NRC review team cannot determine that the “Department’s rules” contain a provision for a trust or standby trust as required by 10 CFR Part 40, Appendix A, Criterion 9. This provision appears to allow the Department to use a method other than a trust or standby trust for financial assurance.**

**Please reference the appropriate section of the Department regulations concerning the use of a trust or standby trust for financial assurance or provide a clarification that indicates licensees are required to use a trust or standby trust for financial assurance.**

## WDEQ Response

Chapter 4, Section 3 of the proposed rules incorporates 10 C.F.R. Part 40, Appendix A, Criterion 9 by reference and establishes the requirements for financial assurance. Criterion 9(h)(4) also provides for a standby trust which creates an inconsistency with current rules and regulations. In order to avoid inconsistencies within the WYDEQ protocols, the URP will propose that 10 C.F.R. Part 40, Appendix A, Criterion 9(h)(4) be excluded from incorporation by reference.

Additionally, provisions prohibiting self-bonding can be found in Chapter 6 of the proposed rules.

## NRC Comment 50

**50. On page 398 of 1080, Chapter 6, Section 4(e), it states, “[P]rior to termination of a license, a licensee shall establish a fund adequate and sufficient to cover**

the payment of the cost for long-term care and monitoring pursuant to Criteria 9 and 10 of 10 CFR Part 40, Appendix A.”

**In 10 CFR Part 40, Appendix A, Criterion 9, it states, “[F]inancial surety arrangements must be established by each mill operator before the commencement of operations to assure that sufficient funds will be available to carry out the decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas. The amount of funds to be ensured by such surety arrangements must be based on Commission-approved cost estimates in a Commission-approved plan, or a proposed revision to the plan submitted to the Commission for approval, if the proposed revision contains a higher cost estimate, for:”**

**In 10 CFR Part 40, Appendix A, Criterion 10, it states, “[I]f site surveillance or control requirements at a particular site are determined, on the basis of a site-specific evaluation, to be significantly greater than those specified in Criterion 12 (e.g., if fencing is determined to be necessary), variance in funding requirements may be specified by the Commission. In any case, the total charge to cover the costs of long-term surveillance must be such that, with an assumed 1 percent annual real interest rate, the collected funds will yield interest in an amount sufficient to cover the annual costs of site surveillance. The total charge will be adjusted annually prior to actual payment to recognize inflation. The inflation rate to be used is that indicated by the change in the Consumer Price Index published by the U.S. Department of Labor, Bureau of Labor Statistics.”**

**Please add language stating that the NRC approves the long-term care fee.**

WDEQ Response

The URP will propose that the following change be made to Chapter 6, Section 4(e) of the proposed rules:

*(e) Prior to termination of a license, a licensee shall establish a fund adequate and sufficient to cover the payment of the cost for long-term care and monitoring, the amount of which shall be approved by the NRC, pursuant to Criteria 9 and 10 of 10 C.F.R Part 40, Appendix A.*

#### **NRC Comments 48 & 51**

**48. On page 386 of 1080, Chapter 4, Section 11(f)(v)(C), it states, “[I]f no residual radioactivity attributable to activities conducted under the license is detected or detectable residual radioactivity is below release criteria found in this Chapter, 10 CFR 40 Appendix A, or 10 CFR 20.1401 through 1404, the licensee shall certify in writing that no detectable radioactivity contamination was found or it was below release criteria (Department Form URP-314 or equivalent). The Department will notify the licensee, in writing, of the termination of the license.”**

**Please provide clarification with regard to when Wyoming will require licensees to meet 10 CFR Part 20 equivalent clean up requirements and when Wyoming will require licensees to meet 10 CFR Part 40 equivalent clean up requirements,**

particularly with regard to when determination is being made for the release of equipment and structures with detectable contamination. Please specify which guidance documents you will be using to implement these requirements.

**51. On page 400 of 1080, Chapter 6, Section 7(a)(iv), it states, “[F]or sites decommissioned in accordance with 10 CFR 20.1403, 20.1404, and 10 CFR Part 40, Appendix A. Cost estimates for long-term care subsequent to license termination must be sufficient to enable the Department or the DOE to....”**

**This section inappropriately mixes 10 CFR Part 20 and Part 40 cleanup requirements with regard to cost estimates for long-term care subsequent to license termination.**

**Please remove the references to the 10 CFR Part 20 requirements.**

WDEQ Response

The URP will propose that references to 10 C.F.R. Subpart E (20.1401 through 1404) were removed from the proposed rules. It is important to note that 10 C.F.R. § 20.1401(a) specifically excludes Uranium Recovery Operations.

#### **NRC Comment 52**

**52. On page 400 of 1080, Chapter 6, Section 7(a)(v), it states, “[U]pon the determination by the Department that disposal, decommissioning, and decontamination requirements have been satisfied, the Department shall transfer the custody of the site and any funds for long-term care to the appropriate regulatory agency assuming long-term care and custody. Such funds include, but are not limited to, sums collected for long-term care and maintenance (i.e., continued site observation, monitoring, and necessary maintenance). Such funds do not include monies held as surety where no default has occurred and the required reclamation or either bonded activity has been performed.”**

**This provision indicates that Wyoming determines the acceptability of the site and transfers the site to the DOE, which is contrary to Section 274c. of the AEA, 42 U.S.C. § 2014(e)(2), as amended. The NRC must approve the State’s conclusion and establish the Long-Term Care Fee.**

**Please revise the above regulation to specify that NRC must approve the State’s conclusion and establish the Long-Term Care Fee.**

WDEQ Response

The URP will propose that the following language be added to Chapter 6, Section 7(a) of the proposed rules:

(v) Upon the determination by the Department that disposal, decommissioning, and decontamination requirements have been satisfied, and after the NRC has approved the Department's determination, the Department shall transfer the custody of the site and any funds for long-term care to the appropriate regulatory agency assuming long-term care and custody. Such funds include, but are not limited to, sums collected for long-term care and maintenance (i.e., continued site observation, monitoring, and necessary maintenance). Such funds do not include monies held as surety where no default has occurred and the required reclamation or either bonded activity has been performed.

### **NRC Comment 53**

**53. On page 401 of 1080, Chapter 7, Section 2(a)(i), it states, “[A]n applicant for or holder of a specific byproduct or source material license issued by the Department pursuant to Chapter 4 of these rules or by the NRC and recognized by the Department; and”**

**The regulation appears to be inconsistent with the NRC regulatory requirements with regard to reciprocity that Agreement States must recognize other licenses issued by Agreement States. Please revise the provision by deleting “and recognized by the Department” and replace with “another Agreement State,” to clarify recognition of other Agreement State licenses.**

#### WDEQ Response

The URP will propose the following changes be made to Chapter 7, Section 2(a)(i) of the proposed rules:

*(a)(i)An applicant for or holder of a specific byproduct or source material license issued by the Department pursuant to Chapter 4 of these rules, the NRC, or another Agreement State ~~and recognized by the Department~~; and*

### **NRC Comment 54**

**54. On page 402 of 1080, Chapter 7, Section 4(c), it states, “[I]ndirect costs will be calculated and allocated to licensees and the Program using the rates and basis for application detailed in the Cognizant Agency Negotiation Agreement, negotiated between the Department and the federal government. Indirect Costs are applied to both Site Specific and Non-Site specific Direct Costs.”**

**Please explain how the Cognizant Agency Negotiation Agreement affects the funding of the Agreement program.**

#### WDEQ Response

The Cognizant Agency Negotiation Agreement is not a Compatibility requirement and has no bearing on the Agreement between the NRC and Wyoming. The Cognizant Agency Negotiation Agreement is a tool used by the Department to calculate the amount of indirect costs to charge for supporting functions such as accounting or human resources. As such, the above changes as suggested by the NRC will not be made to the proposed rules.

## **NRC Comment 55**

**55. On page 405 of 1080, Chapter 8, to aid the program, the NRC review team recommends deleting this chapter regarding risk informed, performance based licensing and inspection and having this information contained in a guidance document to allow the regulatory agency greater flexibility in implementation. Please see NUREG-1569 “Standard Review Plan for In Situ Leach Uranium Extraction License Applications” and NUREG/CR-6733 “A Baseline Risk-informed, Performance-Based Approach for In Situ leach Uranium extraction Licensees” as examples of how the NRC uses risk informed, performance based licensing and inspection in guidance. As a part of guidance this can be periodically revised and updated.**

### **WDEQ Response**

The URP appreciates this comment. However, the URP will maintain Chapter 8 of the proposed rules to ensure the regulatory enforceability of risk-informed, performance based licensing and inspection.

## **NRC Comment 57**

**57. On page 412 of 1080, Chapter 10, Section 2(a), it states, “[T]he Department fully adopts and hereby incorporates by reference 10 CFR §§ 40.20, 40.21, 40.22, and 40.26, revised as of January 1, 2016, unless expressly provided otherwise in these rules. These rules do not include any later amendments or editions of the incorporated matter.”**

The NRC review team notes that 10 CFR 40.20 includes references to 10 CFR 40.27 and 10 CFR 40.28, which Wyoming is not adopting. Wyoming is not requesting to assume regulatory authority over all the types of facilities referenced in 10 CFR 40.22.

**Please revise the sentence to delete reference to 10 CFR 40.20 and make the appropriate revisions regarding 10 CFR 40.22.**

### **WDEQ Response**

The URP will propose that 10 C.F.R. §§ 40.20, 40.21, 40.22, and 40.26 be removed from Chapter 10 of the proposed rules and excluded from the incorporation. Additionally, Chapter 10 of the proposed rules pertains only to the scope of material assumed by the URP.

## **Additional Regulatory Comments based on Previous Regulations Review Correspondence**

### **Oct. 3, 2016 NRC letter to Wyoming on Part 20 (ML16123A034)**

The NRC’s letter had 33 comments on Part 20. The following comments were previously provided in the NRC’s Oct. 3, 2016 letter to Wyoming. The following comments do not refer to any information provided in the draft application. The comments that have

been adequately addressed are excluded from this document.

**100. Chapter 1, General Provisions, Sections 2-3, 10 CFR 20.1001 and 20.1002**

The use of the terms “source material”, “milling”, and “byproduct material” will need to be coordinated with the terms as provided in Wyoming’s enabling legislation. For example, the NRC comments require revising the legislation to state Wyoming is obtaining authority over “source material involved in milling and the resulting byproduct material as specified in the act.”

For simplicity, the NRC review team has used the term “Uranium Recovery Program” throughout this letter to be consistent with the language in the draft application. However, the NRC review team continues to recommend deleting references to uranium "recovery" throughout the statutory provisions, regulations, and referring to this as the “Uranium Milling Program” instead of the “Uranium Recovery Program” to be consistent with the AEA, UMTRCA and the NRC regulatory provisions that only use the term “milling.” The NRC review team also recommends that the regulations do not use the term in situ “mining” when referring to the activities would be covered under Wyoming’s Uranium “Milling” Program because the NRC has no authority over “mining” activities.

Additionally, the NRC review team recommends using the term “license” instead of “permit” to distinguish between material licenses issued under the radiation control program and permits issued under the Underground Injection Control, or other State programs, that issue permits.

This comment stands and is listed as comment 1 in NRC’s Oct. 3, 2016 letter.

WDEQ Response

The use of the term “mining” is specific to Wyoming law governing the Land Quality Division and mining throughout the state. The URP will not revise any of the Land Quality Division Rules with respect to mining. Additionally, The URP mirrored the name of its program after the equivalent NRC program, also titled the “Uranium Recovery Program.”

**101. Chapter 1, General Provisions, Section 5, Definitions 20.1003 Definitions: Byproduct Material**

Wyoming omits equivalent requirements for parts (1), (3) and (4) of the definition of byproduct material as defined in 10 CFR 20.1003. Wyoming will need to provide a definition that is consistent with the term “byproduct material” as defined in the enabling legislation.

In addition, Wyoming should include language regarding laboratory facilities. Specifically, the Wyoming definition of byproduct material should exclude the regulation of laboratory facilities by Wyoming to be consistent with Wyoming’s legislative provision in Article 20. Please also see comment number 28 that requests clarification if Wyoming intends for the NRC to retain sole authority over independent and commercial

**laboratories handling source material involved in uranium milling.**

**Wyoming needs to submit requirements that meet these essential objectives in order to meet the Compatibility Category H&S designation assigned to 10 CFR 20.1003.**

WDEQ Response

The URP will not include definitions for other types of byproduct material. The URP believes that including these definitions would cause regulatory confusion. The URP will not be assuming regulation over these other types of byproduct material. Additionally, these other types of byproduct material are also not referenced in the proposed rules, so there is no need for a definition in the rules. Furthermore, Wyo. Stat. § 35-11-2001(a) clearly establishes the regulatory scope of material that Wyoming will assume.

**This comment stands and is listed as comment 2 in NRC's Oct. 3, 2016 letter.**

**102. Chapter 1, General Provisions, Section 5, Definitions 20.1003 Definitions:**

- **Comment 4 - Commencement of Construction**
- **Comment 5 – Construction**
- **Comment 6 – Contamination**
- **Comment 7 – Exclusive use**
- **Comment 8 – Exposure rate**
- **Comment 9 – Financial assurance**
- **Comment 14 – Natural Uranium**
- **Comment 15 – Natural Thorium**
- **Comment 18 – Radiation Level**
- **Comment 19 – Radioactivity**
- **Comment 20 – Recovery**
- **Comment 21 – Residual Radioactive Material**
- **Comment 22 – Roentgen**
- **Comment 24 – Test**
- **Comment 26 – Uranium Milling**

**The comments associated to those listed above are being revised. The prior comment said that Wyoming has provided these definitions, but Wyoming will need to resubmit these definitions as a part of other regulations as applicable. However, Wyoming only provided these definitions in Chapter 1 and not in the other uranium recovery program Chapters. The NRC review team recommends adding introductory language in Chapter 1, Section 5 to clarify that the definitions in the section apply to all the Chapters relating to the uranium recovery program unless noted otherwise or Wyoming needs to include definitions in each appropriate regulatory chapter for the uranium recovery program.**

WDEQ Response

Chapter 1, Section 5 of the proposed rules states: "*The following terms, as used in these*

*rules and regulations shall, unless the context otherwise requires, have the following meaning."* As such, the definitions found in Chapter 1 apply to all of the proposed rules. Therefore, the URP will not make the changes suggested by the NRC.

**The above comment numbers correspond to the comments listed in NRC's Oct. 3, 2016 letter.**

- 103. Chapter 1, General Provisions, Section 5, Definitions 20.1003 Definitions:**
- **Comment 10 – License**
  - **Comment 11 – Licensee**
  - **Comment 12 – Licensed Material**

**Wyoming has provided unique reciprocity requirements in their enabling legislation. Wyoming needs to provide a definition of License, Licensee, and Licensed Material that also address its unique reciprocity in the regulations.**

**The definition of "Licensed Material" also needs to be revised to state "... extraction or concentration of uranium or thorium ...." As mentioned in a prior comment, this description needs to be used consistently throughout the regulations.**

WDEQ Response

During the 2017 legislative session, Wyo. Stat. § 35-11-2003(a) was revised and eliminated the possibility for any " unique reciprocity requirements." The revised statute should satisfy the concerns identified by the above-comment.

**The above comments stand and are listed as comments 10, 11, and 12 in NRC's Oct. 3, 2016 letter.**

- 104. Chapter 1, General Provisions, Section 5, Definitions 20.1003 Definitions:**
- **Comment 16 – Ore**

**This term is not defined in the NRC regulations. Please explain why this term needs to be defined. This comment stands and is listed as comment 16 in NRC's Oct. 3, 2016 letter.**

WDEQ Response

The URP will propose that the definition of "Ore" be removed from Chapter 1 of the proposed rules.

- 105. Chapter 1, General Provisions, Section 5, Definitions 20.1003 Definitions:**
- **Comment 27 – Waste**
  - **Comment 28 – Licensed Site**
  - **Comment 29 – Ore**

**The above comments from NRC's Oct 3, 2016 letter are being revised. Definition of waste fails to explicitly exclude byproduct (1), (3), and (4) material from the definition**

of waste. The definition of “waste” should be revised to exclude byproduct material (1), (3), and (4). The definition also excludes 11e.(2) byproduct material.

Please explain how this definition of “waste” interacts with the definition of 11e.(2) byproduct material requiring the regulation of tailings and “waste” associated with the concentration or extraction of uranium or thorium. The definition of “waste” in 10 CFR 20.1003 is Compatibility Category B which requires the State Program element to be essentially identical to that of the NRC.

The definitions of “Licensed Site” and “Ore” are not defined in the NRC regulatory provisions. Please explain why these terms need to be defined and what effect the terms will have on Wyoming’s program.

The above comment numbers correspond to the comments listed in NRC’s Oct. 3, 2016 letter.

WDEQ Response

The term “Licensed Site” is defined in 10 C.F.R. Part 40, Appendix A. This term must be incorporated verbatim as it is a Compatibility A requirement. The definition for “Waste” matches the NRC’s definition for “Waste,” and it is a Compatibility B requirement. As such, the URP will not make any of the changes suggested by the NRC with respect to these terms. However, the URP will propose that the definition of “Ore” be removed from Chapter 1 of the proposed rules.

**106. Chapter 1, General Provisions, Section 5, Definitions 20.1003 Definitions:  
• Comment 29 – Operations**

Wyoming has provided this definition as a part of their regulations equivalent 10 CFR Part 20. Wyoming will need to resubmit this definition as a part of other regulations as applicable. The comment stands and corresponds to comment 29 listed in NRC’s Oct. 3, 2016 letter.

WDEQ Response

The NRC defines "Operation" in 10 C.F.R. Part 40 Appendix A. This definition of “Operation” has been incorporated verbatim as it is a Compatibility A requirement. As such, the URP will not make any of the changes suggested by the NRC with respect to this term.

**Oct. 13, 2016 NRC’s letter to Wyoming on Part 40 and Part 150 (ML16229A259)**

The following comments were previously provided in the NRC’s Oct. 13, 2016 letter to Wyoming. The comments do not refer to any information provided in the draft application. The comments that have been adequately addressed are excluded from this document.

**107. Chapter 4, Licensing Requirements, Section 1**

- **Comments 1, 2 and 3 still stand.**
- **Comments 7 and 9 still stand.**

**Comment 1 from NRC’s Oct. 13, 2016 letter:**

**Wyoming Chapter 4, Section 1(a), it states, “[T]his Chapter establishes the criteria for issuance and terms of conditions upon which the Department may issue licenses to receive title to, acquire, own, possess, transfer, offer or receive for transport, or deliver any source material from recovery or milling and the created byproduct material.”**

**Wyoming needs to replace the phrase “source material from recovery or milling and the created byproduct material” with the phrase “source material involved in uranium or thorium recovery or milling, and byproduct material as defined in Section 11e.(2) of the Atomic Energy Act of 1954, 42 U.S.C. § 2014(e)(2), as amended.” Wyoming needs to make the above change in order to be consistent with language that will be in their Agreement and enabling legislation.**

WDEQ Response

Please see response to NRC comments: [32, 33].

**Comment 2 from NRC’s Oct. 13, 2016 letter:**

**Wyoming Chapter 4, Section 2(a), it states, “[T]his Chapter establishes performance objectives and procedural requirements applicable to any source material recovery or milling operation and to waste systems for byproduct material including specific technical and financial requirements for siting, construction, operating, monitoring, decontamination, reclamation, and ultimate stabilization, as well as requirements for licensee transfer and termination, long-term site monitoring, surveillance, ownership, and ultimate custody of source material milling facilities and byproduct material impoundments.”**

**Wyoming needs to replace the phrase “source material recovery or milling operation” with the phrase “operation related to source material involved in uranium or thorium recovery or milling, and byproduct material as defined in Section 11e.(2) of the Atomic Energy Act of 1954, 42 U.S.C. § 2014(e)(2), as amended.” Wyoming needs to make the above change in order to be consistent with language that will be in their Agreement and enabling legislation.**

WDEQ Response

Please see response to NRC comments: [32, 33].

**Comment 3 from NRC’s Oct. 13, 2016 letter:**

**Wyoming Chapter 4 does not address licensing of mill operations at sites no longer active if the site is covered by the remedial action program of UMTRCA Title I.**

**Wyoming needs to include language in their equivalent to 10 CFR 40.2a that addresses the licensing of mill operations at sites no longer active if the site is covered by the remedial action program of UMTRCA Title I. Wyoming needs to make the above change in order to meet the Compatibility Category A designation assigned to 10 CFR 40.2a.**

WDEQ Response

Please see response to NRC comment 41.

**Comment 7 from NRC's Oct. 13, 2016 letter:**

**Wyoming omits equivalent recordkeeping requirements for decommissioning as defined in 10 CFR 40.36 (f). Wyoming needs to submit requirements that meet the essential health and safety objectives in order to meet the Compatibility Category H&S designation assigned to 40.36(f).**

WDEQ Response

Please see response to NRC comment 34.

**Comment 9 from NRC's Oct. 13, 2016 letter:**

**Wyoming has excluded this regulation and considers this regulation outside the scope of its agreement. Wyoming has provided unique reciprocity requirements in their enabling legislation. Wyoming needs to submit requirements that meet the essential objectives in order to meet the Compatibility Category C designation assigned to 10 CFR 150.20.**

**Wyoming also needs to address its unique reciprocity regulations contained in its enabling legislation.**

**The above comments stand and are listed as comment 1, 2, 3, 7 and 9 in NRC's Oct. 13, 2016 letter.**

WDEQ Response

The URP will incorporate 10 C.F.R. § 150.20 by reference in Chapter 4, Section 3(c) of the proposed rules. Please see response to NRC comment 103.

**NRC Comment from October 3, 2016 letter ML 16123A034**

**NRC Comment 27**

**Wyoming omits a definition for Special Nuclear Material. Wyoming needs to submit the definition of "Special Nuclear Material" in order to meet the Compatibility A designation assigned to the definition.**

## WDEQ Response

The URP will propose that the following definition of “Special Nuclear Material” be added to the Chapter 1 of the proposed rules:

"Special Nuclear Material" means:

(i) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material that the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or

(ii) Any material artificially enriched by any of the foregoing but does not include source material.

## NRC Comment 35

**Wyoming omits equivalent requirements for 10 CR 20.1005(b). Wyoming needs to submit equivalent requirements as stated above in order to meet the Compatibility Category A designation assigned to 10 CFR 20.1005.**

## WDEQ Response

The URP will propose that the definition of “Curie” be revised in Chapter 1 of the proposed rules as follows:

~~"Curie" means a unit of measurement of activity. One curie (Ci) is that quantity of radioactive material which decays at the rate of  $3.7 \times 10^{10}$  disintegrations per second or transformations per second (dps or tps).~~

"Curie" means the special unity of activity. One curie is equal to  $3.7 \times 10^{10}$  disintegrations per second is equal to  $3.7 \times 10^{10}$  becquerels is equal to  $2.22 \times 10^{12}$  disintegrations per minute.

**WDEQ Comment: Changes to the governing statutes in Article 20 need to be incorporated into the proposed regulations. Where statutes are referenced, the 2016 date will be changed to 2017. Additionally other dates stated in the regulations should be investigated to determine if changes to a 2017 date is warranted.**

## WDEQ Response

The URP will propose that references to statutes be changed to reflect the 2017 statutory revisions.

## General Comment

WDEQ received comments from NRC on Chapter 11 Non-Coal Rules and Regulation and concerns were raised on the practical implementation of both Chapters as it relates to Uranium Recovery Operations. To appease these concerns WDEQ proposes the following

changes to Chapter 4 Section two:

Chapter Section 2(c)

(c) In instances where this Chapter conflicts with Chapter 11 of the Non-Coal Rules and Regulations, this Chapter shall govern.

### **Wyoming Mining Association (WMA)**

#### **WMA Comment 1.**

The Wyoming Mining Association (WMA) supports the rule package for an agreement state program for uranium recovery. WMA believes that Wyoming should become an agreement state and regulate uranium recovery within Wyoming. WMA believes that agreement state status for Wyoming for uranium recovery is in the best interests of both the uranium recovery industry and the citizens of Wyoming. Agreement state status for Wyoming will enable it to regulate the uranium recovery industry on its own through the Wyoming Department of Environmental Quality with minimal Federal oversight. This should eliminate duplicative work, result in lower costs and reduced regulatory delays for uranium companies in Wyoming, and will help to promote a stable and stronger uranium recovery industry in the state. This in turn will result in improved prospects for industry employment and growth, as well as state revenue.

The rule package before you is the result of a substantial collaborative effort between Land Quality Division (LQD) staff and members of the uranium recovery industry to prepare a set of rules acceptable to the State, the industry and to the Nuclear Regulatory Commission, who must ultimately approve them. It meets the needs of the people of Wyoming and its uranium recovery industry. This package of rules represents the combined expertise of LQD staff and members of the uranium recovery industry. The Wyoming Mining Association requests that they be approved.

#### **WDEQ Response**

WDEQ appreciates the support from the WMA.

## **Powder River Basin Resource Council (PRBRC)**

### **PRBRC Comment 1 Fee Structure**

One of our main concerns with the proposed agreement state status continues to be the proposed fee structure. As stated above, uranium is an international commodity and is particularly subject to booms and busts. From our standpoint, uranium has been mostly in a bust with only short-lived and small booms. This means projects come in, get licensed, and then produce less than anticipated and in many cases they go idle – in some cases for years or more.

While the fees associated with the initial license are straightforward, it is the ongoing annual fees that are concerning given the idle and inactive status of many uranium licenses in the state. These companies are not earning much revenue and therefore will not have much ability to pay. The beginning years of the program will be held up by “predetermined fees” which assumes each operator has an equal ability to pay. This may not be the case.

After these first years, we are equally concerned that the agency is proposing that “Once the Department establishes Projected Costs for a licensee, the licensee shall be assessed an annual fee based on the licensee’s average Total Costs from the previous two years of operation.” Given the idle and inactive status of many licenses, the fees could be quite low – in some cases it might just be the proposed minimum \$1,000 annual fee – and these fees will likely not be sufficient to stand up the program.

We ask that DEQ show its math, so to speak, to demonstrate that the program will be self-sustaining and will meet its statutory mandates. Until DEQ is able to do that, the Environmental Quality Council should not approve the regulatory framework for agreement state status.

### **WDEQ Response**

The URP appreciates the opportunity to respond to PRBRC comments. In regards to the Fee structure, we hope this response will "show the math" sufficiently to address PRBRC concerns. The proposed fee structure is fairly simple. Each year at the beginning of the year the program will collect its entire budget as was decided by the Legislature. Throughout the year the program tracks its cost for each licensee and at the end of the year an assessment of whether an invoice (charges in excess of what was received at the beginning of the year) or a refund (a surplus in funds received compared to the fees received at the beginning of the year) should be given. These costs, as the rules point out, are broken down into Site Specific Direct Costs (SSDC), Non Site Specific Costs (NSSC), and Indirect Costs (IC). The concern was raised that in down economies there may not be sufficient fees collected to cover the costs of the program. In response to that concern, the program will collect its allotted budget at the beginning of the year regardless of the economy. Looking at all the licenses in times of a down economy, their SSDC may be lower, but the NSSC will be higher. Another way to demonstrate this idea is by the following equation:

$$SSDC + NSSC + IC = \textit{Legislative Budget}$$

### **PRBRC Comment 2 Public Participation Opportunities**

One of the main requirements of the Atomic Energy Act that Wyoming has to implement is opportunities for public participation. As the NRC is a federal agency it is subject to the National Environmental Policy Act. While Wyoming is not subject to NEPA as a state agency, DEQ must have similar public participation opportunities, especially in terms of review of environmental reports prepared by the license applicant and the agency.

We ask DEQ to ensure there are both informal and more formal opportunities for public participation on the license application and associated environmental reports. Individuals and/or organizations or local governments may wish to submit comments, or appear at a hearing in a limited way, as opposed to having to hire a lawyer and experts to be able to participate more formally. Our organization has engaged in uranium projects licensed by the NRC in both formal and informal ways and have found value in both types of processes.

We also note that the fees discussed above should cover any anticipated costs of hearings before the Environmental Quality Council and Council staff time to oversee the hearings. Given that we are one of the few entities (besides industry) that have been through an Atomic Safety & Licensing Board hearing process, we would be happy to give our perspective. In many cases, we fear the proposed regulations are not as detailed as the ASLB's implementing framework and therefore will create confusion, especially given the lack of precedent at the beginning. The ASLB process is in some ways simplified from the normal EQC proceeding (for instance, it allows for pre-filed direct testimony and therefore negating the need for discovery) but in some ways it is more complex (for instance, by requiring amended and updated contentions filed at various stages surrounding the environmental reports). Regardless, it requires a multi-year commitment that creates insurmountable difficulties for most members of the public, therefore highlighting the need for less formal and less burdensome public participation opportunities.

## **WDEQ Response**

WDEQ greatly appreciates previous PRBRC involvement in LQD licensing actions in the past and looks forward to continuing that relationship as WDEQ pursues Agreement State status. We have gained valuable insight from PRBRC. WDEQ understands the importance of and need for public participation. Additionally, we understand the public participation requirements as required by Wyoming law. Chapter 4 of the proposed rules outline the public participation process for the URP. We are confident this process satisfies all applicable requirements for public participation. Additionally we have proposed a change in the public notice requirements to align the source material requirements with LQD permit to mine, please see the below change;

### Chapter 4 Section 15(a)(ii)

Upon issuance of the initial draft decision described in Section 15(a)(i), or a licensing action that significantly impacts the environment or public health and safety, the Department shall initiate a public comment process, and hold a public hearing upon written request from an "aggrieved party" as defined in W.S. § 35-11-103(a)(vii). If a public hearing is requested, the Department shall publish notice of the public hearing in a newspaper of statewide or general circulation or on the Department's website ~~at least forty five (45) days~~ before the public hearing. The notice of the public hearing shall include.

### **PRBRC Comment 3 Technical Concerns**

We echo the concerns raised by Uranium Watch, especially in terms of incorporating definitions into the Wyoming regulatory framework that are not from federal regulations that have gone through notice and comment rulemaking.

We understand that adopting the NRC regulatory framework is complicated by the fact that NRC so heavily relies upon guidance documents, however, we are concerned that Wyoming is proposing to incorporate guidance into its formal regulations.

### **WDEQ Response**

Thank you for the comment, please see the response to Uranium Watch's comments.

## Wyoming Association of Professional Archaeologists

### Wyoming Association of Professional Archaeologists Comment 1

We have reviewed the Proposed Rules and have one primary concern. Permitting actions by the Nuclear Regulatory Commission (NRC) are subject to the requirements of Section 106 of the National Historic Preservation Act (NHPA). This legislation requires the NRC to consider the effects of their undertakings on historic properties, which are those sites listed on or eligible for the National Register of Historic Places. How the NRC considers these effects is defined in regulations promulgated by the Advisory Council on Historic Preservation (ACHP), found at 36 CFR Part 800. We understand that Wyoming DEQ is assuming those responsibilities, under the Proposed Rules.

The regulations implementing the NHPA [36 CFR § 800.16(y)] define an undertaking as *"a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval."* We assume that compliance with the NHPA will be incorporated into Wyoming's management of the Uranium Recovery Program under the Proposed Rules, but we are concerned with the lack of clarity on how such incorporation will happen.

### **WDEQ Response**

Thank you for submitting your comment regarding the Wyoming Department of Environmental Quality (DEQ), Land Quality Division, Uranium Recovery Program's proposed rulemaking package. We appreciate the time and resources committed in reviewing the proposed rules and providing a written comment. We have thoroughly reviewed and considered the Wyoming Association of Professional Archaeologists' comment regarding the requirements of Section 106 of the National Historic Preservation Act (NHPA). We have also discussed the issues raised by the Wyoming Association of Professional Archaeologists' comment with the Nuclear Regulatory Commission (NRC). The NRC and DEQ are in agreement that DEQ's Uranium Recovery Program and the State of Wyoming are not subject to the requirements of Section 106 of the NHPA.

At the time of agreement between the NRC and the State of Wyoming, the NRC will discontinue its regulatory responsibilities and DEQ will assume regulatory authority over source material involved in uranium or thorium recovery or milling and the associated byproduct material. The regulation of this category of materials will have transitioned from a federal regulatory program to an *entirely* state regulatory program. Agreements with the NRC are unique when compared to other federal programs. In other federal programs, federal agencies delegate or authorize a State to implement their programs. In those situations, the federal agency still maintains regulatory authority over the program. In contrast, under this specific program the NRC will discontinue its federal regulatory authority over the radioactive materials and activities as specified in Section 274(b) of the Atomic Energy Act. The NRC will have no jurisdiction or authority over the state licenses issued by Wyoming's Uranium Recovery Program. Accordingly, the program will no longer constitute an "undertaking" as defined by 36 C.F.R. § 800.16(y). It

will not be funded by any federal agency, will not receive any federal monies, and will no longer require a federal license or approval for use, handling, or possession of source material involved in uranium or thorium recovery or milling and the associated byproduct material.

A public hearing before the Environmental Quality Council is scheduled for May 24, 2017 at 9:00 a.m. (MST) at the Sheridan College, Room TRCC 008 in the Thorne-Rider Campus Center, 3059 Coffeen Avenue, Sheridan, WY 82801

## Uranium Watch

### Uranium Watch Comment, Group 1.1

Comment 1.1.1. states that the definition of “alternate feed processing” is not included in the Atomic Energy Act (AEA) of 1954, as amended, or any NRC regulation, and that the definition is not required. Comment 1.1.2. states that including this definition is questionable. Comment 1.1.2.1., as it relates to Comment 1.1.2., states that Wyoming doesn’t have an operating conventional uranium mill. Comment 1.1.2.2., as it relates to Comment 1.1.2., states that Wyoming doesn’t have an operating conventional uranium mill and that there is no available alternate feed to be received by a possible operating conventional uranium mill in the state of Wyoming. Comment 1.1.2.3. states that there are legal issues associated with alternate feed processing. Comment 1.1.2.4. states that there are health and safety issues related to alternate feed processing, including:

- 1) Spills;
- 2) Shipments not meeting the material description;
- 3) Processing of materials that contain chemical constituents not found in other conventional natural ores;
- 4) Receipt and storage of materials in containers not suitable for storage;
- 5) Lack of evidence of liner compatibility with certain chemical constituents in alternate feeds;
- 6) Lack of environmental assessments for processing of alternate feeds;
- 7) Disposal of materials under the guise of alternate feed processing;
- 8) Unaddressed issues related to worker exposures to chemicals in alternate feeds, and;
- 9) Other environmental, safety, and health concerns.

Comment 1.1.2.5 states the EPA’s standards and regulations applicable to uranium milling (40 CFR 192 and 40 CFR 61 Subpart W) were not promulgated contemplating alternate feed processing, and are therefore not applicable to alternate feed processing. Comment 1.1.2.6. states that NRC’s regulations applicable to uranium milling (10 CFR 40) were not promulgated contemplating alternate feed processing and are therefore not applicable to alternate feed processing. Comment 1.1.3 states that Wyoming should not incorporate the definition of alternate feed processing because Wyoming has no licensed and operating convention uranium mill and that Wyoming has not examined the legal implications, health and safety, and environmental issues related to alternate feed processing.

### ***WDEQ Response***

Although there is currently no alternate feed processing in Wyoming, alternate feed processing is a process accepted by the NRC and other states that could, in the future, be used in Wyoming for the extraction of an alternate feed's source material content. By including the definition of "Alternate Feed Processing" in its rules, URP does not intend to accept license amendments or new license applications for alternate feed processing without completing the requirements defined in the Uranium Recovery Program's proposed rules. Also, while there are

currently no operating conventional uranium mills in Wyoming, the Sweetwater Mill, near Rawlins, Wyoming, is a licensed conventional uranium mill on standby. Additionally, URP could license conventional mills or heap leach facilities, which may have some ability to process certain alternate feeds. The definition of alternate feed processing provides the framework for potential future regulation as described above.

### **Uranium Watch Comment, Group 1.2**

Comment 1.2.1 states that the purpose of the exemptions of the definition of “Construction” is to allow a licensee to conduct construction activities prior to the completion of the licensing process, and that this is not acceptable to the commenter. Comment 1.2.2. states that Wyoming believes construction activities, as defined, must be related to radiological health and safety. Furthermore, the commenter states that the agency, by allowing certain construction activities prior to license issuance, would be reluctant to withhold approval of an operation given the construction investments already made prior to license issuance. Comment 1.2.3 states that the Wyoming definition of construction appears to circumvent AEA requirements for Agreement State uranium milling licenses and then states 42 U.S.C. § 2021(o) with emphasis added to certain sections pertaining to construction and procedures. Comment 1.2.4 states that the AEA prohibits major construction activities prior to the completion of the licensing process. Comment 1.2.5 states that although Wyoming’s definition of construction matches the NRC definition of construction, the State of Wyoming must adopt a more stringent definition.

### ***WDEQ Response***

The definition and exemptions to the term “Construction” comes directly from 10 C.F.R § 40.4. For compatibility purposes, the State of Wyoming will retain this definition. Additionally, the language proposed in Comment 1.2.3. by Uranium Watch is incorporated by reference in Chapter 4 as 10 CFR 150.31., with the exception of 10 C.F.R 150.31(b)(3)(iv).

### **Uranium Watch Comment, Group 1.3**

Comment 1.3.1. states that the State of Wyoming cannot rely on guidance to amend statutes and regulations applicable to uranium mills in NRC, AEA, and EPA statutes and regulations. Therefore, Wyoming should not define “direct disposal”. Comment 1.3.2. states that there are no operating conventional uranium mills in the state and so the commenter doesn’t understand why direct disposal is defined and that there is no basis for adopting a definition regarding disposal of material that does not fall under EPA or NRC regulations for uranium mills. Comment 1.3.3. states that Wyoming should delete the definition of “Direct Disposal”.

### ***WDEQ Response***

By including the definition of "Direct Disposal," URP will not approve license amendments or new license applications for direct disposal unless all regulatory requirements are satisfied. Including the definition of direct disposal in the proposed rules provides the framework for the potential future regulation of conventional uranium mills or heap leach facilities, as previously described.

#### **Uranium Watch Comment, Group 1.4**

Comments 1.4.1. to 1.4.14. concern the definition of “Ore” in Wyoming’s regulations. For various reasons this definition has been deleted, and therefore these comments have been nullified. Additionally, these comments state that Wyoming should delete any definitions and other regulations that contemplate processing of materials other than natural ore at uranium mills in Wyoming.

#### ***WDEQ Response***

URP will remove the definition of ore from the proposed rules.

#### **Uranium Watch Comment, Group 1.5**

Comment 1.5.1. states that Wyoming’s definition of “unrefined and unprocessed ore” should be used as the definition of “ore” and that “ore” should not mean any materials other than natural uranium ores.

#### ***WYDEQ Response***

The URP will retain the definition of “Unrefined and Unprocessed Ore.”

#### **Uranium Watch Comment, Group 2.1**

This comment group, Comment 2.1.1., relates to Chapter 4, Section 15, Subsection (a). The commenter requests that this section be rewritten to clarify the requirements of the AEA for a written analysis of impacts to the environment including the impacts to public health, water, consideration of alternatives to the proposed action, and consideration of long-term impacts.

#### ***WDEQ Response:***

URP has incorporated by reference 10 CFR 150.31 in Chapter 4 of these regulations, with the exception of 10 CFR 150.31(b)(3)(iv). The reference is essentially the same language Uranium Watch proposes the URP uses in its regulations. The URP will ensure that any licensing action meets the requirements of the AEA.

#### **Uranium Watch Comment, Group 2.2**

This comment group relates to Chapter 4, Section 15, Subsection (a) (page 4-15). Comment 2.2.1. requests that any hearing should be held close to the site of proposed or licensed facility. Comment 2.2.2. states that Section 15(a)(iii) should clarify what is meant by the “opportunity for cross-examination” and to include who may be cross-examined.

#### ***WDEQ Response***

The URP reserves the right to hold public hearings at locations it deems acceptable, but will make an effort to have the meetings in a reasonable radius of the proposed licensed area. Wyoming is a large state and many of these sites are remote. The nearest town may not have facilities to accommodate visitors. An "opportunity for cross examination" means that the parties

to the hearing shall be provided the opportunity to cross-examine witnesses at a hearing held pursuant to the proposed rules.

### **Uranium Watch Comment Group, 2.3**

This comment group relates to Chapter 4, Section 16, Subsections (j) and (e). Comment 2.3.1. states that it is unclear what financial assurance requirements are needed for uranium and thorium mill tailings impoundments and waste disposal areas.

#### ***WDEQ Response***

Chapter 4 of the proposed rules incorporates 10 C.F.R. § 40, Criterion 9, by reference. Uranium or thorium mill tailings impoundments are financially bonded per 10 C.F.R. § 40 Criterion 9. Additionally, please see Chapter 6, Financial Assurance Requirements for further information on financial assurance requirements for uranium or thorium mill tailings impoundments.

### **Uranium Watch Comment, Group 2.4**

This comment group relates to Chapter 4, Section 16. Comment 2.4.1 states that this section should not allow conventional uranium mills to delay decommissioning indefinitely and cites Sweetwater Mill as an example of this. Comment 2.4.2. states that there have been issues with respect to the transportation of radium barium sludge waste from Cameco Resources Smith Ranch/Highland ISL to White Mesa Mill in Utah. The commenter states that Wyoming must do a better job than the NRC in assuring that this waste is safely transported. Comment 2.4.3. states that this section does not discuss the need for reclamation milestones. The commenter requests that Wyoming familiarize itself with a 1991 MOU between the NRC, EPA, and agreement states regarding reclamation milestones. Comment 2.4.4. requests that attention be paid to cleanup of radiological contamination during the operational life of licensed facilities. Comment 2.4.5. states that the Department should accompany NRC staff on inspections of uranium recovery operations in Wyoming.

#### ***WDEQ Response***

Any Memorandum of Understanding (MOU) which applies to the Agreement States will apply to the State of Wyoming's Uranium Recovery Program. Chapter 4, Section 10, "Operational Requirements" requires spills, excursions, and releases of a certain magnitude to be cleaned up in a timely manner. Additionally, since the inception of the Uranium Recovery Program, the program's staff has been regularly accompanying the NRC staff on inspections.

### **Uranium Watch Comment, Group 2.5**

Comment group 2.5 is related to Chapter 9 Transportation. Comment 2.5.1. refers to comment 2.4.2 as it pertains to Chapter 9.

#### ***WDEQ Response***

The Program is aware of these transportation issues. Two of the URP staff accompanied the NRC on the inspection related to the confirmatory order related to these transportation issues.

### **Uranium Watch Comment, Group 3.1**

The State of Wyoming should include, not just incorporate by reference, applicable NRC regulations.

#### ***WYDEQ Response***

Incorporation by reference is an NRC accepted manner to capture the required language in the State's regulations.

### **Uranium Watch Comment, Group 3.2**

Comment 3.2. states that Wyoming should encourage public participation through making all licensing and permitting documents readily available to the public through an electronic database similar to NRC's ADAMS.

#### ***WDEQ Response***

The URP agrees that public participation is important to the program. Wyoming will make an effort to post important documents electronically.

### **Uranium Watch Comment, Group 3.3**

Comment 3.3. states that Wyoming must place important Uranium Recovery documents on dedicated web pages.

#### ***WDEQ Response***

See the previous response.

### **Uranium Watch Comment, Group 3.4**

Comment 3.4. requests that the documents posted to a dedicated web page include:

- Licenses and permits;
- License and license amendment applications;
- Agency requests for additional information;
- Technical and environmental analyses of licensing actions;
- Inspection reports;
- Notices of violations;
- Orders;
- Draft and final licensing actions;
- Public notices;
- Reclamation plans;
- Excursions and other reportable events;
- Required quarterly,
- Semi-annual, and annual reports, and;
- Any other reports or documents required to be submitted by a license condition.

### ***WDEQ Response***

See the response to Comment 3.2.

### **Uranium Watch Comment, Group 3.5**

The commenter requests that the licensee fee structure be able to fund the systems and employees that will assure that all relevant licensing documents are made conveniently available for public use in a timely manner.

### ***WDEQ Response***

The licensee fee structure accounts for direct and indirect costs. The efforts referenced in Comment 3.2. will be funded through the licensee fee structure.

### **Uranium Watch Comment Group 3.6**

Comment 3.6. states that It is unclear what will happen to the thousands of uranium recovery licensees in Wyoming once Wyoming becomes an Agreement State for these operations. The comment requests the Department urge the NRC to maintain these document files on ADAMS.

### ***WDEQ Response***

Wyoming does not have thousands of uranium recovery licensees in its boundaries. At the time of Agreement, existing licenses will become state-issued licenses instead of NRC. Documents related to these operations will be retained on ADAMS until NRC removes them. The Department will ask the NRC to retain these documents in perpetuity, or until URP can establish an electronic filing and storage system.

### **Uranium Watch Comment, Group 3.7**

The commenter requests the State of Wyoming review the newly issued revisions to the NESHAPs for radon emissions from operating uranium mill tailings in 40 CFR Part 61 Subpart W. The commenter further requests that the State of Wyoming supplement these rules through rulemaking or license condition, and not rely on the EPA to implement their requirements.

### ***WDEQ Response***

Subpart W was promulgated by the EPA. The State of Wyoming will not enforce Subpart W requirements that are not incorporated by the State of Wyoming regulations.

### **Uranium Watch Comment Group 3.8**

The commenter requests Wyoming establish a numerical emission standard, monitoring, and reporting requirements for heap leach uranium recovery operations.

### ***WDEQ Response***

Wyoming will ensure that the concept of ALARA is maintained at all uranium recovery operations as it relates to public and occupational radiological health.

## CHAPTER 1

### GENERAL PROVISIONS

#### Section 1. Authority.

(a) These rules and regulations are promulgated pursuant to the Wyoming Environmental Quality Act, Wyoming Statute (W.S.) §§ 35-11-2001 *et seq.* These rules and regulations are effective upon filing with the Secretary of State.

#### Section 2. Purpose.

(a) It is the purpose of these rules to state such requirements as shall be applied in the use of ~~byproduct material and~~ source material involved in the extraction ~~and or~~ concentration of uranium ~~and or~~ thorium in source material and ores at uranium ~~and or~~ thorium milling facilities and the management and disposal of associated byproduct material (referred to throughout these rules as licensed material) such that the Department can ensure the protection of the public health and safety to all persons at, or in the vicinity of, the place of use, storage, or disposal.

#### Section 3. Scope.

(a) Except as otherwise specifically provided, these rules apply to all persons who receive, possess, use, offer and receive for transfer, own, or acquire any ~~byproduct material or~~ source material ~~from the~~ involved in the extraction ~~and or~~ concentration of uranium ~~and or~~ thorium in source material and ores at uranium ~~and or~~ thorium milling facilities and the management and disposal of associated byproduct material. Nothing in these rules shall apply to any person to the extent such person is subject to regulation not relinquished by the United States Nuclear Regulatory Commission (NRC). These rules do not govern the mining or removal of source material in its natural state or independent or commercial laboratory facilities that possess, use, or accept byproduct or source material.

#### Section 4. Incorporation by Reference (IBR) of Code of Federal Regulations (C.F.R.)

(a) AVAILABILITY OF REFERENCED MATERIAL. The federal rules adopted by reference throughout these rules are maintained at the following locations:

(i) Electronic copies of the federal rules adopted by reference throughout these rules may be obtained from the U.S. Government Printing Office, <http://www.ecfr.gov>; and

(ii) Volumes of the federal rules adopted by reference throughout these rules are available for public inspection at the Wyoming Department of Environmental Quality, Uranium Recovery Program, 200 West 17th Street, Suite 10, Cheyenne, Wyoming 82002. Printed copies of the federal rules adopted by reference throughout these rules are also available at cost from the U.S. Government Printing Office, 732 North Capitol Street Northwest, Washington D.C. 20401 or at <http://bookstore.gpo.gov/catalog/laws-regulations/code-federal-regulations-cfrs-print>. Copies of the federal rules adopted by reference throughout these rules

may be requested at cost through the Wyoming Department of Environmental Quality, which will order the materials from the U.S. Government Printing Office.

## **Section 5. Definitions.**

The following terms, as used in these rules and regulations shall, unless the context otherwise requires, have the following meanings:

(a) "Absorbed Dose" means the energy imparted by ionizing radiation per unit mass of irradiated material. The units of absorbed dose are the rad and the gray (Gy).

(b) "Act" means Environmental Quality Act, W.S. §§ 35-11-103 *et seq* ~~(2016)~~.

(c) "Action Limits" means the minimum and maximum values of a quality assurance measurement that can be interpreted as representing acceptable performance with respect to the parameter being tested. Values less than the minimum or greater than the maximum action limit or level indicate that corrective action must be taken. Action limits or levels are also sometimes called control limits or levels.

(d) "Activity" means the rate of disintegration (transformation) or decay of radioactive material. The units of activity are the curie (Ci) and the bequerel (Bq).

(e) "Adult" means an individual 18 or more years of age.

(f) "Agreement State" means a state with which the Atomic Energy Commission or the Nuclear Regulatory Commission has entered into an effective agreement under Section 274(b) of the Atomic Energy Act of 1954 (AEA), as amended (42 U.S.C. § 2021). Nonagreement State means any other State.

(g) "Airborne Radioactive Material" means a radioactive material dispersed in the air in the form of dusts, fumes, particulates, mists, vapors, or gases.

(h) "Airborne Radioactivity Area" means a room, enclosure, or area in which airborne radioactive materials, composed wholly or partly of licensed material, exists in concentrations:

(i) In excess of the derived air concentrations (DACs), specified in 10 C.F.R. Part 20, Appendix B, or

(ii) To such a degree that an individual present in the area without respiratory protective equipment could exceed, during the hours an individual is present in a week, an intake of 0.6 percent of the annual limit on intake (ALI), or 12 DAC hours.

(i) "Air-Purifying Respirator" means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

(j) "Alert" means events may occur, are in progress, or have occurred that could lead to a release of radioactive material but that the release is not expected to require a response by offsite

response organizations to protect persons offsite.

(k) "Alternate Feed Processing" means the processing of any ~~other~~ matter other than mined natural or native matter from which source material [i.e. uranium or thorium] is extracted in a licensed uranium or thorium mill as authorized by RIS 00-023: Recent Changes to Uranium Recovery Policy dated November 30, 2000 and NRC regulatory Issue Summary 2012-06 NRC Policy Regarding Submittal of Amendments for Processing of Equivalent Feed at Licensed Uranium Recovery Facilities, dated April 16, 2012.

(l) "Annual Limit on Intake (ALI)" means the derived limit for the amount of radioactive material taken into the body of an adult worker by inhalation or ingestion in a year. ALI is the smaller value of intake of a given radionuclide in a year by the reference man that would result in a committed effective dose equivalent of 5 rems (0.05 Sv) or a committed dose equivalent of 50 rems (0.5 Sv) to any individual organ or tissue. (ALI values for intake by ingestion and by inhalation of selected radionuclides are given in Table 1, Columns 1 and 2, of [Appendix B](#) to 10 CFR Part 20).

(m) "As Low as Reasonably Achievable (ALARA)" means making every reasonable effort to maintain exposures to radiation as far below the dose limits as is practical, consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest.

(n) "Assigned Protection Factor (APF)" means the expected workplace level of respiratory protection that would be provided by a properly functioning respirator or a class of respirators to properly fitted and trained users. Operationally, the inhaled concentration can be estimated by dividing the ambient airborne concentration by the APF.

(o) "Atmosphere-Supplying Respirator" means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARS) and self-contained breathing apparatus (SCBA) units.

(p) "Background Radiation" means radiation from:

(i) Cosmic sources;

(ii) Naturally occurring radioactive materials, including radon (except as a decay product of source or special nuclear material); and

(iii) Global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation and are not under the control of the licensee.

Background radiation does not include sources of radiation from radioactive materials regulated by the NRC or agreement states.

(q) "Becquerel (Bq)" means the SI unit of activity. One (1) becquerel is equal to one (1) disintegration or transformation per second.

(r) "Bioassay" means the determination of kinds, quantities or concentrations, and in some cases, the locations of radioactive material in the human body, whether by direct measurement (in vivo counting) or by analysis and evaluation of materials excreted or removed from the human body. For purposes of these rules, "radiobioassay" is an equivalent term.

(s) "Byproduct Material" means the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content as defined in section 11e. (2) of the AEA (42 U.S.C § 2014(e)(2) (2015)).

(t) "Calibration" means the determination of:

(i) The response or reading of an instrument relative to a series of known radiation values over the range of the instrument; or

(ii) The strength of a source of radiation relative to a standard.

(u) "Class (or lung class or inhalation class)" means a classification scheme for inhaled material according to its rate of clearance from the pulmonary region of the lung. Materials are classified as D, W, or Y, which applies to a range of clearance half-times; for Class D (Days) of less than 10 days, for Class W (weeks) from 10 to 100 days, and Class Y (years) of greater than 100 days.

(v) "Collective Dose" means the sum of the individual doses received in a given period of time by a specified population from exposure to a specified source of radiation.

(w) "Commencement of Construction" means taking any action defined as construction or any other activity at the site of a facility subject to these rules that has a reasonable nexus to radiological health or safety.

(x) "Commission" means the U.S. Nuclear Regulatory Commission or its duly authorized representatives. "Nuclear Regulatory Commission" and "NRC" are equivalent terms.

(y) "Committed Dose Equivalent ( $H_{T,50}$ )" means the dose equivalent to organs or tissues of reference (T) that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.

(z) "Committed Effective Dose Equivalent ( $H_{E,50}$ )" is the sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to each of these organs or tissues ( $H_{E50} = \sum W_T H_{T50}$ ).

(aa) "Constraint (dose constraint)" means a value above which specified licensee actions are required.

(ab) "Construction" means the installation of wells associated with the radiological operations (e.g., production, injection, or monitoring well networks associated with in-situ recovery

or other facilities), the installation of foundations, or in-place assembly, erection, fabrication, or testing for any structure, system, or component of a facility or activity subject to these rules and regulations that are related to radiological safety or security. The term "construction" does not include:

- (i) Changes for temporary use of the land for public recreational purposes;
- (ii) Site exploration, including necessary borings to determine foundation conditions or other preconstruction monitoring to establish background information related to the suitability of the site, the environmental impacts of construction or operation, or the protection of environmental values;
- (iii) Preparation of the site for construction of the facility, including clearing of the site, grading, installation of drainage, erosion, and other environmental mitigation measures, and construction of temporary roads and borrow areas;
- (iv) Erection of fences and other access control measures that are not related to the safe use of, or security of, radiological materials subject to these rules;
- (v) Excavation;
- (vi) Erection of support buildings (e.g. construction equipment storage sheds, warehouses and shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and office buildings) for use in connection with the construction of the facility;
- (vii) Building of service facilities (e.g., paved roads, parking lots, railroad spurs, exterior utility, and lighting systems, potable water systems, sanitary sewerage treatment facilities, and transmission lines);
- (viii) Procurement or fabrication of components or portions of the proposed facility occurring at other than the final, in place location at the facility; or
- (ix) Taking any other action that has no reasonable nexus to radiological health and safety.

(ac) "Contamination" means the presence of radioactive substance on a surface in quantities in excess of unrestricted release limits. For limits on transportation please refer to 10 C.F.R. § 71.4. For uranium recovery operations please refer to Regulatory Guide 8.30 Health Physics Surveys in Uranium Recovery Facilities Section 2.5, Table 2 Revision 1 May 2002, which states that contamination exists in two phases. Additionally for areas where beta and gamma contamination exist please refer to the references in Table 2 of Regulatory Guide 8.30.

- (i) Fixed radioactive contamination means radioactive contamination that cannot be removed from a surface during normal conditions.
- (ii) Non-fixed or removable radioactive contamination means radioactive contamination that can be removed from a surface during normal conditions.

(ad) "Controlled Area" means an area, outside of a restricted area but inside the site boundary, access to which can be limited by the licensee for any reason.

(ae) "Critical Group" means the group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances.

(af) "Curie" means ~~a unit of measurement of~~ the special unit of activity. One curie is equal to  $3.7 \times 10^{10}$  disintegrations per second which is equal to  $3.7 \times 10^{10}$  becquerels which is equal to  $2.22 \times 10^{12}$  disintegrations per minute. ~~One curie (Ci) is that quantity of radioactive material which decays at the rate of  $3.7 \times 10^{10}$  disintegrations per second or transformations per second (dps or tps).~~

(ag) "Declared Pregnant Woman" means a woman who has voluntarily informed the licensee, in writing, of her pregnancy and the estimated date of conception. The declaration remains in effect until the declared pregnant woman withdraws the declaration in writing or is no longer pregnant.

(ah) "Decommission" means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits:

(i) Release of property for unrestricted use and termination of the license; or

(ii) Release of the property under restricted conditions and termination of the license.

(ai) "Deep Dose Equivalent ( $H_d$ )," which applies to external whole body exposure, means the dose equivalent at a tissue depth of 1cm ( $1000 \text{ mg/cm}^2$ ).

(aj) "Demand Respirator" means an atmosphere-supplying respirator that admits breathing air to the facepiece only when negative pressure is created inside the facepiece by inhalation.

(ak) "Department" means the State of Wyoming Department of Environmental Quality.

(al) "Derived Air Concentration (DAC)" means the concentration of given radionuclide in air which, if breathed by reference man for a working year of 2,000 hours under conditions of light work (inhalation rate of 1.2 cubic meters of air per hour), results in an intake of 1 ALI. DAC values are given in 10 C.F.R. Part 20, Appendix B, Table 1 Column 3.

(am) "Derived Air Concentration–Hour (DAC-Hour)" means the product of the concentration of radioactive material in air (expressed as a fraction or multiple of the derived air concentration for each radionuclide) and the time of exposure to that radionuclide, in hours. A licensee may take 2,000 DAC-hours to represent 1 ALI equivalent to a committed effective dose equivalent of 5 rems (0.05 Sv).

(an) "Direct Disposal" means disposal of non-11e.(2) byproduct material in a uranium mill tailings impoundment as authorized by RIS 00-023: Recent Changes to Uranium Recovery Policy dated November 30, 2000.

(ao) "Discrete source" means a radionuclide that has been processed so that its concentration within a material has been purposely increased for use for commercial, medical, or research activities.

(ap) "Disposable Respirator" means a respirator for which maintenance is not intended and that is designed to be discarded after excessive breathing resistance, sorbent exhaustion, physical damage, or end of service life renders it unsuitable for use. Examples of this type of respirator are disposable half-mask respirators or disposable escape-only self-contained breathing apparatus (SCBA).

(aq) "Distinguishable from Background" means that the detectable concentration of a radionuclide is statistically different from the background concentration of that radionuclide in the vicinity of the site or, in the case of structures, in similar materials using adequate measurement technology, survey, and statistical techniques.

(ar) "Dose" means is a generic term that means absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, or total effective dose equivalent. For purposes of these rules, "radiation dose" is an equivalent term.

(as) "Dose Equivalent ( $H_T$ )" means the product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest. The units of dose equivalent are the rem and sievert (Sv).

(at) "Dose Limits" means the permissible upper bounds of radiation doses established in accordance with these rules. For purpose of these rules, "limits" is an equivalent term.

(au) "Dosimetry Processor" means an individual or organization, that is National Voluntary Laboratory Accreditation Program (NAVLAP) approved, that processes and evaluates individual monitoring equipment in order to determine the radiation dose delivered to the equipment.

(av) "Effective Dose Equivalent ( $H_E$ )" means the sum of the products of the dose equivalent to the organ or tissue ( $H_T$ ), and the weighting factor ( $W_T$ ), applicable to each of the body organs or tissues that are irradiated ( $H_E = \sum W_T H_T$ ).

(aw) "Embryo/Fetus" means the developing human organism from conception until the time of birth.

(ax) "Entrance or Access Point" means any location through which an individual could gain access to radiation areas or to licensed radioactive materials. This includes entry or exit portals of sufficient size to permit human entry, irrespective of their intended use.

(ay) "Equivalent Feed" refers to ion exchange (IX) resin that is loaded with uranium at facilities licensed for source material (i.e. water treatment plants or mine dewatering operations) or licensed uranium recovery facilities whether conventional, heap leach, or ISR facilities. RIS 2012-06 NRC Policy Regarding Submittal of Amendments for Processing of Equivalent Feed at Licensed Uranium Recovery Facilities details the permitting of equivalent feed at uranium recovery operations.

(az) "Exclusive Use" means the sole use by a single consignor or a conveyance for which all initial, intermediate, and final loading and unloading are carried out in accordance with the direction of the consignor or consignee. The consignor and the carrier must ensure that any loading or unloading is performed by personnel having radiological training and resources appropriate for safe handling of the consignment. The consignor must issue specific instructions, in writing, for maintenance of exclusive use shipment controls, and include them with the shipping paper information provided to the carrier by the consignor.

(ba) "Exposure" means being exposed to ionizing radiation or to radioactive material. For purposes of these rules, this term is used as a verb.

(bb) "Exposure Rate" means the exposure per unit of time, such as roentgen per minute and milliroentgen per hour.

(bc) "External Dose" means that portion of the dose equivalent received from a source of radiation outside the body.

(bd) "Extremity" means hand, elbow, arm below the elbow, foot, knee, and leg below the knee.

(be) "Financial Assurance" means the method of assuring that sufficient funds will be available at the time of license termination and decommissioning of the facility to cover all costs associated with the decommissioning.

(bf) "Filtering Facepiece (dust mask)" means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium, not equipped with elastomeric sealing surfaces and adjustable straps.

(bg) "Fit Factor" means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

(bh) "Fit Test" means the use of protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.

(bi) "Generally Applicable Environmental Radiation Standards" means standards issued by the U.S. Environmental Protection Agency under the authority of the AEA, as amended, that impose limits on radiation exposures or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material.

(bj) "Helmet" means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

(bk) "High Radiation Area" means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 0.1 rem (1mSv), in 1 hour at 30 centimeters from the radiation source or 30 centimeters from any surface that the radiation penetrates.

(bl) "Hood" means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

(bm) "Individual" means any human being.

(bn) "Individual monitoring" means:

(i) The assessment of dose equivalent by:

(A) Use of devices designed to be worn by an individual, or

(B) Survey data.

(ii) The assessment of committed effective dose equivalent by:

(A) Bioassay, or

(B) By determination of the time-weighted air concentrations to which an individual has been exposed (i.e. DAC-hours).

(bo) "Individual Monitoring Devices" means devices designed to be worn by a single individual for the assessment of dose equivalent. For purposes of these rules, individual monitoring equipment and personnel monitoring equipment are equivalent terms. Examples of individual monitoring devices are film badges, thermoluminescence dosimeters (TLD's), pocket ionization chambers, and personal air sampling devices.

(bp) "Internal Dose" means that portion of the dose equivalent received from radioactive material taken into the body.

(bq) "Lens Dose Equivalent (LDE)" means the external exposure of the lens of the eye and is taken as the dose equivalent at a tissue depth of 0.3 centimeter (300 mg/cm<sup>2</sup>).

(br) "License" means a form of permission given by the Department to an applicant who has met the requirements for licensing set out in the Act and these rules.

(bs) "Licensee" means a person who is licensed by the Department in accordance with the Act and these rules.

(bt) "Licensed material" means source material involved in the extraction ~~and~~ or concentration of uranium ~~and~~ or thorium in source material and ores at uranium or ~~and~~ thorium milling facilities and the management and disposal of associated ~~He-2~~ byproduct material received, possessed, used, transferred, or disposed of under a license issued by the Department.

(bu) "Limits (dose limits)" means the permissible upper bounds of radiation doses.

(bv) "Loose Fitting Facepiece" means a respiratory inlet covering that is designed to form a partial seal with the face.

(bw) "Lost or Missing Licensed Material" means licensed material whose location is

unknown. It includes material that has been shipped but has not reached its destination and whose location cannot be readily traced in the transportation system.

(bx) "Low Specific Activity (LSA) Material" means radioactive material with limited specific activity which is non-fissile or is accepted under 10 C.F.R. § 71.15, and which satisfies the description and limits set forth in Chapter 9 of these Rules. Shielding materials surrounding the LSA material may not be considered in determining the estimated average specific activity of the package contents. The LSA material must be in one of three groups.

(i) LSA-I:

(A) Uranium and thorium ores, concentrates of uranium and thorium ores, and other ores containing naturally occurring radionuclides that are intended to be processed for the use of these radionuclides;

(B) Natural uranium, depleted uranium, natural thorium or their compounds or mixtures, provided they are unirradiated and in solid or liquid form;

(C) Radioactive material other than fissile material, for which the  $A_2$  value is unlimited; or

(D) Other radioactive material in which the activity is distributed throughout and the estimated average specific activity does not exceed 30 times the value for exempt material activity concentration determined in accordance with 10 C.F.R. Part 71, Appendix A.

(ii) LSA-II:

(A) Water with tritium concentration up to 0.8 TBq/liter (20.0 Ci/liter),  
or

(B) Other radioactive material in which the activity is distributed throughout and the estimated average specific activity does not exceed  $10^{-4}$   $A_2/g$  for solids and gases, and  $10^{-5}$   $A_2/g$  for liquids.

(iii) LSA-III Solids (e.g., consolidated wastes, activated materials), excluding powders, that satisfy the requirements of 10 C.F.R. § 71.77, in which:

(A) The radioactive material is distributed throughout a solid or collection of solid objects, or is essentially uniformly distributed in a solid compact binding agent (such as concrete, bitumen, ceramic, etc.);

(B) The radioactive material is relatively insoluble, or it is intrinsically contained in a relative insoluble material, so that even under loss of packaging, the loss of radioactive material per package by leaching, when placed in water for 7 days will not exceed 0.1  $A_2$ ; and

(C) The estimated average specific activity of the solid, excluding any shielding material, does not exceed  $2 \times 10^{-3}$   $A_2/g$ .

(by) "Member of the Public" means an individual except when that individual is receiving an occupational dose.

(bz) "Minor" means an individual less than 18 years of age.

(ca) "Monitoring" means the measurement of radiation levels, concentrations, surface area concentrations or quantities of radioactive material, and the use of the results of these measurements to evaluate potential exposures and doses. For purposes of these rules, radiation monitoring and radiation protection monitoring are equivalent terms.

(cb) "Natural Thorium" means thorium with the natural occurring distribution of thorium isotopes (essentially 100 weight percent thorium-232).

(cc) "Natural Uranium" means uranium (which may be chemically separated) with the naturally occurring distribution of uranium isotopes (approximately 0.711 weight percent uranium-235 and the remainder by weight essentially uranium-238).

(cd) "Negative Pressure Respirator (tight fitting)" means a respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

(ce) "Nonstochastic Effect" means health effects, the severity of which varies with the dose and for which a threshold is believed to exist. Radiation-induced cataract formation is an example of a nonstochastic effect (also called a deterministic effect). For the purposes of these rules deterministic effects are equivalent terms.

(cf) "Occupational Dose" means the dose received by an individual in the course of employment in which the individual's assigned duties involve exposure to radiation or to radioactive material from licensed and unlicensed sources of radiation, whether in the possession of the licensee or other person. An Occupational dose does not include doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under 10 C.F.R. Part § 35.75, from voluntary participation in medical research programs, or as a member of the public.

~~(ce) — "Ore" means a natural or native matter (not a material licensed by the State) that may be mined and treated for the extraction of any of its constituents or any other matter from which source material [i.e. uranium or thorium] is extracted in a licensed uranium or thorium mill as authorized by RIS 00-023: Recent Changes to Uranium Recovery Policy dated November 30, 2000 and NRC Regulatory Issue Summary 2012-06 NRC Policy Regarding Submittal of Amendments for Processing of Equivalent Feed at Licensed Uranium Recovery Facilities, dated April 16, 2012.~~

(cg) "Operation" means all of the activities, equipment, premises, facilities, structures, roads, right-of-way, waste and refuse areas, storage and processing areas, and shipping areas used in the process of excavating or removing overburden and minerals from the affected land or for removing overburden for the purpose of determining the location, quality or quantity of natural deposit or for the reclamation of affected lands.

(ch) "Person" means an individual, partnership, firm, association, joint venture, public or

private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, municipality or any other political subdivision of the State, or any interstate body or any other legal entity.

(ci) "Physician" means a medical doctor or doctor of osteopathy licensed by a State or Territory of the United States, the District of Columbia, or the Commonwealth of Puerto Rico to prescribe drugs in the practice of medicine.

(cj) "Positive Pressure Respirator" means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

(ck) "Powered air-purifying respirator (PAPR)" means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

(cl) "Pressure Demand Respirator" means a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

(cm) "Principal Activities" as used in these rules, means activities authorized by the license which are essential to achieving the purpose(s) for which the license was issued or amended. Storage during which no licensed material is accessed for use or disposal and activities incidental to decontamination or decommissioning are not principal activities

(cn) "Program" means the State of Wyoming's Uranium Recovery Program.

(co) "Public Dose" means the dose received by a member of the public from exposure to radiation or to radioactive materials released by a licensee, or to any other source of radiation under the control of a licensee. Public dose does not include occupational dose or doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released in accordance with 10 C.F.R. § 35.75, or from voluntary participation in medical research programs.

(cp) "Qualitative Fit Test (QLFT)" means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to a test agent.

(cq) "Quality factor (Q)" means the modifying factor, listed in Tables 1 of Section 7 of this Chapter and Table 1004(b).2 of 10 CFR 20.1004, that is used to derive dose equivalent from absorbed dose.

(cr) "Quantitative Fit Test (QNFT)" means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

(cs) "Quarter" means a period of time equal to one-fourth of the year observed by the licensee (approximately 13 consecutive weeks), providing that the beginning of the first quarter in a year coincides with the starting date of the year and that no day is omitted or duplicated in consecutive quarters.

(ct) "Radiation" means alpha particles, beta particles, gamma rays, x-rays, neutrons, high

speed electrons, high speed protons, and other particles capable of producing ions. For purposes of these rules, ionizing radiation is an equivalent term. Radiation, as used in these rules, does not include non-ionizing radiation, such as radio or microwaves, visible, infrared, or ultraviolet light.

(cu) "Radiation Area" means an area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.005 rem (0.05 mSv), in 1 hour at 30 centimeters from the radiation source or from any surface that the radiation penetrates.

(cv) "Radiation Level" means the radiation dose-equivalent expressed in millisieverts per hour or mSv/h (millirems per hour or mrem/h).

(cw) "Radioactivity" means the transformation of unstable atomic nuclei by the emission of radiation.

(cx) "Recovery or Milling" refers to the definition in W.S. §§ 35-11-103 ~~(2016)~~.

(cy) "Reference Man" means a hypothetical aggregation of human physical and physiological characteristics arrived at by international consensus. These characteristics may be used by researchers and public health workers to standardize results of experiments and to relate biological insult to a common base.

(cz) "Residual Radioactive Material" means (1) Waste (which the Secretary of Energy determines to be radioactive) in the form of tailings resulting from the processing of ores for the extraction of uranium and other valuable constituents or the ores; and (2) other waste (which the Secretary of Energy determines to be radioactive) at a processing site which relates to such processing, including any residual stock of unprocessed ores or low-grade materials. This term is used only with respect to materials at sites subject to remediation under Title I of the Uranium Mill Tailings Radiation Control Act of 1978 as amended.

(da) "Residual Radioactivity" means radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the licensee's control. This includes radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of 10 C.F.R. Part 20 which is incorporated by reference in Chapter 3 of these rules.

(db) "Respiratory Protective Device" means an apparatus, such as a respirator, used to reduce the individual's intake of airborne radioactive materials.

(dc) "Restricted Area" means an area, access to which is limited by the licensee for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials. Restricted area does not include areas used as residential quarters, but separate rooms in a residential building may be set apart as a restricted area.

(dd) "Roentgen (R)" means the special unit of exposure. One roentgen equals  $2.58 \times 10^{-4}$  coulombs per kilogram of air. *See* exposure, defined above.

(de) "Sanitary Sewerage" means a system of public sewers carrying off waste water and refuse, but excluding sewage treatment facilities, septic tanks, and leach fields owned and operated by the licensee.

(df) "Self-Contained Breathing Apparatus (SCBA)" means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by user.

(dg) "Shallow Dose Equivalent ( $H_s$ )" which applies to the external exposure of the skin of the whole body or the skin of an extremity and is taken as the dose equivalent at a tissue depth of 0.007 centimeter (7 mg/cm<sup>2</sup>).

(dh) "SI" means an abbreviation of the International System of Units.

(di) "Site Area Emergency" means events which may occur, are in progress, or have occurred that could lead to a significant release of radioactive material and that could require a response by offsite organizations to protect persons offsite.

(dj) "Site boundary" means that line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee.

(dk) "Source material" means:

(i) Uranium or thorium, or any combination thereof, in any physical or chemical form, or

(ii) Ores which contain by weight one-twentieth of one percent (0.05 percent), or more of uranium, thorium, or any combination thereof. Source material does not include special nuclear material.

(dl) "Specific Activity" means the radioactivity of the radionuclide per unit mass of the nuclide. The specific activity of a material in which the radionuclide is essentially uniformly distributed is the radioactivity per unit mass of material. The Specific Activity for Natural Uranium is ~~6.77E-777~~ $6.777 \times 10^{-7}$  Ci per gram of U.

(dm) "Special Nuclear Material" means:

(i) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material that the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or

(ii) Any material artificially enriched by any of the foregoing but does not include source material.

(dn) "Stochastic Effects" means health effects that occur randomly and for which the probability of the effect occurring, rather than its severity, is assumed to be a linear function of dose without threshold. Hereditary effects and cancer incidence are examples of stochastic effects.

(do) "Supplied-Air Respirator (SAR)" means an atmosphere-supplying respirator for

which the source of breathing air is not designed to be carried by the user.

(dp) "Survey" means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. When appropriate, such an evaluation includes physical survey of the location of radioactive material and measurements or calculations of levels of radiation, or concentrations or quantities of radioactive material present.

(dq) "Test" means the process of verifying compliance with an applicable rule.

(dr) "Tight Fitting Facepiece" means a respiratory inlet covering that forms a complete seal with the face.

(ds) "Total Effective Dose Equivalent (TEDE)" means the sum of the effective dose equivalent for external exposures and the committed effective dose equivalent for internal exposures.

(dt) "Unrefined and Unprocessed Ore" means ore in its natural form prior to any processing, such as grinding, roasting, beneficiating, or refining. Processing does not include sieving or encapsulation of ore or preparation of samples for laboratory analysis.

(du) "Unrestricted Area" means an area, to which access is neither limited nor controlled by the licensee. For purposes of these rules, "uncontrolled area" is an equivalent term.

(dv) "Unrestricted Use" means that the facility area, or object may be used by individuals for any purpose without limit or control of the licensee.

(dw) "Uranium Fuel Cycle" means the operations of milling of uranium ore, chemical conversion of uranium, isotopic enrichment of uranium, fabrication of uranium fuel, generation of electricity by a light-water-cooled nuclear power plant using uranium fuel, and reprocessing of spent uranium fuel to the extent that these activities directly support the production of electrical power for the public use. Uranium fuel cycle does not include mining operations, operations at waste disposal sites, transportation of radioactive material in support of these operations, and the reuse of recovered non-uranium special nuclear and byproduct materials from the cycle.

(dx) "Uranium milling" means any activity that results in the production of byproduct material as defined in W.S. §§ 35-11-103 ~~(2016)~~. *See also* Recovery or Milling.

(dy) "User seal check (fit check)" means an action conducted by the respirator user to determine if the respirator is properly seated to the face. Examples include negative pressure check, positive pressure check, irritant smoke check, or isoamyl acetate check.

(dz) "Very High Radiation Area" means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving an absorbed dose in excess of 500 rads (5 grays) in 1 hour at 1 meter from a radiation source or 1 meter from any surface that the radiation penetrates.

(ea) "Waste" means those low-level radioactive wastes containing source, special

nuclear, or byproduct material that are acceptable for disposal in a land disposal facility. For the purpose of this definition, low level radioactive waste means radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in this Chapter.

(eb) "Week" means seven consecutive days starting on Sunday.

(ec) "Weighting Factor ( $W_T$ )" means for an organ or tissue (T) is the proportion of the risk of stochastic effects resulting from irradiation of that organ or tissue to the total risk of stochastic effects when the whole body is irradiated uniformly. For calculating the effective dose equivalent, the values of  $W_T$  are:

Organ or Tissue	$W_T$
Gonads	0.25
Breasts	0.15
Red bone marrow	0.12
Lung	0.12
Thyroid	0.03
Bone Surfaces	0.03
Remainder	<sup>1</sup> 0.30
Whole Body	<sup>2</sup> 1.00

<sup>1</sup> 0.30 results from 0.06 for each 5 "remainder organs" (excluding the skin and the lens of the eye) that receive the highest doses.

<sup>2</sup> For the purposes of weighting the external whole body dose (for adding it to the internal dose), a single weighting factor,  $W_T = 1.0$ , has been specified. The use of weighting factors for external exposure will be approved on a case-by-case basis until such time as specific guidance is issued.

(ed) "Whole Body" means, for purposes of external exposure, head, trunk including male gonads, arms above the elbow, or legs above the knees.

(ee) "Worker" means an individual engaged in work under a license issued by the Department and controlled by a licensee, but does not include the licensee.

(ef) "Working Level (WL)" means any combination of short-lived radon daughters in 1 liter of air that will result in the ultimate emission of  $1.3 \times 10^5$  MeV of potential alpha particle energy. The short-lived radon daughters are: for radon-222: polonium-218, lead-214, bismuth-214, and polonium-214; and for radon 220: polonium-216, lead-212, bismuth-212, and polonium-212.

(eg) "Working Level Month (WLM)" means an exposure to one working level for 170 hours. 2,000 working hours per year divided by 12 months per year is approximately equal to 170 hours per month.

(eh) "Year" means the period of time beginning in January used to determine compliance with the provisions of these rules. The licensee may change the starting date of the year used to determine compliance by the licensee provided that the change is made at the beginning of the year

and that no day is omitted or duplicated in consecutive years.

**Section 6. Definitions applicable solely to criteria listed in 10 C.F.R. Part 40, Appendix A.**

The following definitions apply only to criteria listed in 10 C.F.R. Part 40, Appendix A which outline the operation of Uranium Mills and disposition of tailings or wastes produced by the extraction or concentration of source material from ores processed primarily for their source material content.

(a) "Aquifer" means a geological formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs. Any saturated zone created by uranium or thorium recovery operations would not be considered an aquifer unless the zone is potentially (1) hydraulically interconnected to a natural aquifer, (2) capable of discharge to surface water, or (3) reasonably accessible because of migration beyond the vertical projection of the boundary of the land transferred for long-term government ownership and care in accordance with 10 C.F.R. Part 40, Appendix A Criterion 11.

(b) "As expeditiously as practicable considering technological feasibility" for the purpose of 10 C.F.R. Part 40, Appendix A, Criterion 6A, means as quickly as possible considering: the physical characteristics of the tailings and the site; the limits of available technology, the need for consistency with the mandatory requirements of other regulatory programs, and factors beyond the control of the licensee. The phrase permits consideration of cost of compliance only to the extent specifically provided for by use of the term "available technology".

(c) "Available Technology" means technologies and methods for emplacing a final radon barrier on uranium mill tailings piles or impoundments. This term shall not be construed to include extraordinary measures or techniques that would impose costs that are grossly excessive as measured by practice within the industry (or one that is reasonably analogous), (such as, by way of illustration only, unreasonable over time, staffing, or transportation requirements, etc., considering normal practice in the industry; laser fusion of soil, etc.), provided there is reasonable progress toward emplacement of the final radon barrier. To determine grossly excessive costs, the relevant baseline against which costs shall be compared is the cost estimate for tailings impoundment closure contained in the licensee's approved reclamation plan, but costs beyond these estimates shall not automatically be considered grossly excessive.

(d) "Closure" means the activities following operations to decontaminate and decommission the buildings and site used to produce byproduct materials and reclaim the tailings and/or waste disposal area.

(e) "Closure Plan" means the Commission approved plan to accomplish closure.

(f) "Compliance Period" begins when the Commission sets secondary ground-water protection standards and ends when the owner or operator's license is terminated and the site is transferred to the State or Federal agency for long-term care.

(g) "Dike" means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

(h) "Disposal Area" means the area containing byproduct material to which the requirements of 10 C.F.R. Part 40, Appendix A, Criterion 6 apply.

(i) "Existing Portion" means the land surface area of an existing surface impoundment on which significant quantities of uranium or thorium byproduct materials had been placed prior to September 30, 1983.

(j) "Factors Beyond the Control of the Licensee" means factors proximately causing delay in meeting the schedule in the applicable reclamation plan for the timely emplacement of the final radon barrier notwithstanding the good faith efforts of the licensee to complete the barrier in compliance with paragraph (1) of 10 C.F.R. Part 40, Appendix A, Criterion 6A. These factors may include but are not limited to:

(i) Physical conditions at the site;

(ii) Inclement weather or climate conditions;

(iii) An act of God;

(iv) An act of war;

(v) A judicial or administrative order or decision, or change to the statutory, regulatory, or other legal requirements applicable to the licensee's facility that would preclude or delay the performance of activities required for compliance;

(vi) Labor disturbances;

(vii) Any modifications, cessation or delay ordered by State, Federal, or local agencies;

(viii) Delays beyond the time reasonably required in obtaining necessary government permits, licenses, approvals, or consent for activities described in the reclamation plan proposed by the licensee that result from agency failure to take final action after the licensee has made a good faith, timely effort to submit legally sufficient applications, responses to request (including relevant data requested by the agencies), or other information, including approval of the reclamation plan; and

(ix) An act or omission of any third party over whom the licensee has no control.

(k) "Final Radon Barrier" means the earthen cover (or approved alternative cover) over tailings or waste constructed to comply with 10 C.F.R. Part 40, Appendix A, Criterion 6 of this appendix (excluding erosion protection features).

(l) "Groundwater" means water below the land surface in a zone of saturation. For purposes of 10 C.F.R. Part 40, Appendix A, groundwater is the water contained within an aquifer as defined above.

(m) "Leachate" means any liquid, including any suspended or dissolved components in

the liquid that has percolated through or drained from the byproduct material.

(n) "Licensed Site" means the area contained within the boundary of a location under the control of persons generating or storing byproduct materials under a Commission or an agreement state license.

(o) "Liner" means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment which restricts the downward or lateral escape of byproduct material, hazardous constituents, or leachate.

(p) "Milestone" means an action or event that is required to occur by an enforceable date.

(q) "Operations" this definition is specific for uranium or thorium tailings and means that a uranium or thorium mill tailings pile or impoundment is being used for the continued placement of byproduct material or is in standby status for such placement. A pile or impoundment is in operation from the day that byproduct material is first placed in the pile or impoundment until the day final closure begins.

(r) "Point of Compliance" is the site specific location in the uppermost aquifer where the groundwater protection standard must be met.

(s) "Reclamation Plan" for the purposes of 10 C.F.R. Part 40, Appendix A Criterion 6A means the plan detailing activities to accomplish reclamation of the tailings or waste disposal area in accordance with the technical criteria in this appendix. The reclamation plan must include a schedule from reclamation milestones that are key to the completion of the final radon barrier including as appropriate, but not limited to, windblown tailings retrieval and placement on the pile, interim stabilization (including dewatering or the removal of freestanding liquids and recontouring), and final radon barrier construction (reclamation of tailings must also be addressed in the closure plan; the detailed reclamation plan may be incorporated into the closure plan).

(t) "Surface Impoundment" means a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well.

(u) "Uppermost Aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

## **Section 7. Units of Exposure and Dose.**

(a) As used in these rules, the unit of exposure is the coulomb per kilogram (C per kg). One roentgen is equal to  $2.58 \times 10^{-4}$  coulomb per kilogram of air.

(b) As used in these rules, the units of dose are:

(i) Gray (Gy) is the SI unit of absorbed dose. One gray is equal to an absorbed dose of one joule per kilogram. One gray equals 100 rad.

(ii) Rad is the special unit of absorbed dose. One rad is equal to an absorbed dose of 100 erg per gram or 0.01 joule per kilogram. One rad equals 0.01 Gy.

(iii) Rem is the special unit of any of the quantities expressed as dose equivalent. The dose equivalent in rem is equal to the absorbed dose in rad multiplied by the quality factor. One rem equals 0.01 Sv.

(iv) Sievert (Sv) is the SI unit of any of the quantities expressed as dose equivalent. The dose equivalent in sievert is equal to the absorbed dose in gray multiplied by the quality factor. One Sv equals 100 rem.

(c) As used in these rules, the quality factors for converting absorbed dose to dose equivalent are shown in Table 1.

**TABLE 1**

Quality Factors and Absorbed Dose Equivalencies

Type of Radiation	Quality Factor (Q)	Absorbed Does Equal to a Unit Dose Equivalent
X, gamma, or beta radiation and high-speed electrons	1	1
Alpha particles, multiple-charged particles, fission fragments and heavy particles of unknown charge	20	0.05
Neutrons of unknown energy	10	0.1
High energy protons	10	0.1

For the column in Table 1 labeled "Absorbed Dose Equal to a Unit Dose Equivalent," the absorbed dose in rad is equal to one rem or the absorbed dose in gray is equal to one Sv.

**Section 8. Units of Radioactivity.**

For purposes of these rules, activity is expressed in the SI unit of becquerel (Bq), or in the special unit of curie (Ci), or their multiples, or disintegrations or transformations per unit of time.

**Section 9. Communication and Referenced Materials.**

All communication and reports concerning parts of these rules, and application filed thereunder, should be addressed to the Department.

**Section 10. Deliberate misconduct.**

(a) No person may do any of the following:

(i) Engage in deliberate misconduct that causes or would have caused, if not detected, a licensee under this chapter to be in violation of any rule or order of the Department; or any term, condition or limitation of any license issued by the Department under this chapter; or

(ii) Deliberately submit to the Department any information that the person knows to be incomplete or inaccurate. This includes licensees, and contractors and subcontractors to licensees.

(iii) Deliberate misconduct by a person means an intentional act or omission that the person knows:

(A) Would cause a licensee to be in violation of any rule, regulation, or order; or any term, condition, or limitation issued by the Department; or

(B) Constitutes a violation of a requirement, procedure, instruction, contract, purchase order, or policy of a licensee or a contractor or subcontractor of a licensee.

**Section 11. Exemptions.**

(a) The Department may upon application or upon its own initiative, grant such exemptions or exception from requirements as it determines are authorized by law and will not result in undue hazard to public health and safety or property. Provisions for exceptions are provided for in W.S. § 35-11-2003(c) ~~(2016)~~.

(b) Additionally, the Department authorizes exemptions for the possession, use, transfer, or acquisition of any byproduct material, or source material extracted ~~and~~ or concentrated at a uranium or thorium milling facility to any U.S. Department of Energy contractor or subcontractor and any U.S Nuclear Regulatory Commission contractor or subcontractor of the following categories operating within this State:

(i) Prime contractors performing work for the U.S. Department of Energy at U.S. Government owned or controlled sites, including the transportation of sources of radiation to or from such sites and the performance of contract services during temporary interruptions of such transportation;

(ii) Prime contractors of the U.S. Department of Energy performing research in, or development, manufacture, storage, testing, or transportation of, atomic weapons or components thereof;

(iii) Prime contractors of the U.S. Department of Energy using or operating nuclear reactors or other nuclear devices in the U.S. Government owned vehicles or vessels; and

(iv) Any other prime contractor or subcontractor of the U.S. Department of Energy of the U.S. Nuclear Regulatory Commission when the State and the U.S. Nuclear

Regulatory Commission determine that:

(A) The exemption of the prime contractor or subcontractor is authorized by law; and

(B) Under the terms of the contract or subcontract, there is adequate assurance that the work thereunder can be accomplished without undue risk to the public health and safety.

**Section 12. Records.**

(a) A licensee shall maintain records showing the receipt, transfer, and disposal of all licensed material.

(b) All records required by this chapter shall be accurate and factual.

(c) Additional records requirements are specified elsewhere in these rules. If the record retention period is not specified, the record shall be maintained for a period of three years.

## CHAPTER 2

### INSPECTIONS, ENFORCEMENT, AND PENALTIES

#### Section 1. Purpose.

(a) This Chapter establishes requirements to ensure the protection of the public health and safety and of all persons at, or in the vicinity of, the place of use, storage, or disposal of source material involved in the extraction ~~or and~~ concentration of uranium ~~or and~~ thorium in source material and ores at milling facilities and the management and disposal of the associated byproduct material.

#### Section 2. Scope.

(a) This chapter applies to the authorized and unauthorized extraction or concentration of uranium or thorium in source material and ores at milling facilities. The Department may inspect, enforce, and penalize both licensees and ~~the~~ non-licensees for the unlawful possession, use, transfer, ownership or other such unpermitted handling of byproduct material and source material involved in the extraction ~~or and~~ concentration of uranium ~~or and~~ thorium at uranium and thorium facilities in accordance with these rules, the Act, and applicable state and federal laws.

#### Section 3. Inspections and Testing.

(a) Each licensee and applicant shall obtain, afford, and grant access to the Department, at all reasonable times, the opportunity to inspect licensed material, facilities, premises, and records to ensure compliance with these rules, the Act, licensing conditions, and other applicable state and federal laws.

(b) As required by the Department, each licensee shall perform, or shall permit the Department to perform, such reasonable tests as the Department deems appropriate or necessary including, but not limited to, the testing of:

- (i) Source material from the extraction ~~and or~~ concentration of uranium ~~or~~ thorium at uranium ~~or and~~ thorium milling facilities, and byproduct material;
- (ii) Facilities wherein licensed material are used or stored; and
- (iii) Radiation detection and monitoring instruments.

#### Section 4. Violations.

(a) All violations of this Act or these rules are subject to penalty as provided by Wyoming Statute (W.S.) § 35-11-901 ~~(2016)~~.

(b) An injunction or other court order may be obtained prohibiting any violation of any provision of the Act or these rules.

(c) Submittal of false information shall be sufficient basis for rejecting or revoking any Department issued license, registration, certification or other acceptance, approval or permit.

(d) These rules and regulations shall not limit any existing civil or criminal remedies in accordance with W.S. §. 35-11-904 ~~(2016)~~.

#### **Section 5. Enforcement.**

(a) The Department may issue Notices of Violation and Orders pursuant to W.S. § 35-11-701 ~~(2016)~~.

(b) Licensee initiative for self-identification and correction of problems is encouraged. The Department will generally not issue Notices of Violations for a violation that:

- (i) Was identified by the licensee;
- (ii) Results in low or no health and safety consequences;
- (iii) Was documented, in writing, for review by the Department;
- (iv) Was or will be corrected, including measures to prevent recurrence, within ninety (90) days, or another time frame approved by the Department; and
- (v) Was not a violation that could reasonably be expected to have been prevented by the licensee's corrective action for a previous violation.

(c) Licensees are not ordinarily cited for violations resulting from matters outside of their control, such as equipment failures that were not avoidable by reasonable quality assurance measures ~~or management controls~~. However, licensees are held responsible for acts of their employees. Accordingly, the rules should not be construed to excuse personal errors.

(d) At the discretion of the Department, and in accordance with W.S. § 35-11-701 ~~(2016)~~, licensees may have the opportunity to eliminate or correct the violation before the issuance of a Notice of Violation if that violation results in low or no health and safety consequences and can be eliminated or corrected in an expedient manner.

#### **Section 6. Orders and other Administrative Actions.**

- (a) The Department may issue Orders:
- (i) To remove a threat to public health and safety or the environment;
  - (ii) To demand that a Licensee or other person cease and desist violations or unauthorized or illegal activities; or
  - (iii) For any other reason in which license revocation or suspension is authorized.

(b) The Department may issue Orders to suspend all or part of any regulated activity. These Orders may be effective immediately, without prior opportunity for hearing, whenever it is determined that public health, interest, or safety so requires, or when responding to a willful or wanton violation.

(c) The Department may hold informal enforcement or settlement conferences to discuss safety, public health, or environmental problems, compliance with regulatory requirements, proposed corrective measures, including schedules for implementation, and enforcement.

## CHAPTER 3

### RADIATION PROTECTION STANDARDS

#### Section 1. Purpose.

(a) This Chapter establishes standards for protection against ionizing radiation resulting from activities conducted pursuant to licenses issued by the Department.

(b) This Chapter is designed to control the receipt, possession, use, transfer, or disposal of licensed material such that the total dose to an individual, excluding radiation dose from background sources, does not exceed the standards for protection against radiation as outlined in this Chapter.

(c) The limits provided for in this Chapter do not apply to doses due to background, from medical diagnosis or therapy, from individuals administered radioactive material and released, or from voluntary participation in medical research.

#### Section 2. Scope.

(a) This Chapter applies to persons licensed by the Department to acquire, own, possess, use, transfer, ~~use~~, offer or receive for transport, or dispose of licensed material.

#### Section 3. Implementation.

(a) Any existing license condition imposed by the Department that is more restrictive than this Chapter remains in force until there is an amendment or renewal of the license.

#### Section 4. Incorporation by Reference of 10 Code of Federal Regulations (C.F.R.) Part 20; Standards for Protection Against Radiation.

(a) Any reference in these rules to requirements, or procedures contained in 10 C.F.R., Part 20, Sections 20.1001 through 20.2402 shall constitute the full adoption by reference of that part and subparts as they appear in 10 C.F.R., revised as of January 1, ~~2016~~2017, including any notes and appendices therein, unless expressly provided otherwise in these rules. These rules do not include any later amendments or editions of the incorporated matter.

(b) The following 10 C.F.R. sections, as of January 1, ~~2016~~ 2017, are excluded from these rules and are not incorporated by reference: 20.1001, 20.1002, 20.1003, 20.1004(a), 20.1005, 20.1006, 20.1007, 20.1008, 20.1009, 20.1206, 20.1301(c), 20.1401, 20.1402, 20.1403, 20.1404, 20.1405, 20.1406(b), 20.1601(f), 20.1903(b), 20.1903(d), 20.1905(g), 20.2003(b), 20.2104 (b), 20.2105, 20.2203(c), 20.2204, 20.2206(a)(1), 20.2206(a)(3), 20.2206(a)(4), 20.2206(a)(5), 20.2401, 20.2402, and Appendix D.

(c) Any references in the federal rules adopted by reference to “NRC Operations Center (301-816-5100),” or any component thereof, in 10 CFR Part 20 shall be deemed to be a reference to the Department and the Uranium Recovery Program.

(d) Any references in the federal rules adopted by reference to the United States Nuclear Regulatory Commission (NRC), or any component thereof, shall be deemed to be a reference to the Department and the Uranium Recovery Program.

## CHAPTER 4

### LICENSING REQUIREMENTS FOR SOURCE AND BYPRODUCT MATERIAL

#### Section 1. Purpose.

(a) This Chapter establishes the criteria for issuance and terms of conditions upon which the Department may issue licenses to receive title to, acquire, own, possess, use, transfer, offer or receive for transport, or deliver any licensed material. This Chapter also governs the operation of facilities for handling and disposing of licensed material. This Chapter also provides requirements for decommissioning and the long-term care and maintenance of byproduct material. Unless otherwise specified, the requirements of this Chapter are in addition to, and not in substitution for, other applicable requirements of these rules.

#### Section 2. Scope.

(a) This Chapter establishes performance objectives and procedural requirements applicable to any licensee. This Chapter also applies to waste systems for byproduct material, including specific technical and financial requirements for siting, construction, operation, monitoring, decontamination, reclamation, and ultimate stabilization of byproduct material, as well as requirements for licensee transfer and termination, long-term site monitoring, surveillance, ownership, and ultimate custody of source material milling facilities and byproduct material impoundments.

~~(b) — This Chapter governs byproduct material located at a site where milling operations are no longer active, if such site is not covered by the remedial action program of Title I of the Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978 (42 U.S.C. §§ 7901 *et seq.*). This Chapter does not establish criteria and procedures for the issuance of licenses for materials covered under Title I of UMTRCA of 1978, unless that program fails to accomplish the remedial action. Disposal at a uranium or thorium processing site of licensed material which is not byproduct material must not inhibit reclamation of the tailings impoundment or the ability of the United States Government to take title to the impoundment as long-term custodian.~~

~~(e)b~~ (b) A person subject to the regulations of this Chapter may not receive title to, acquire, own, possess, use, transfer, offer or receive for transport, provide for long-term care and maintenance, or deliver or dispose of licensed material, or residual radioactive material as defined in Chapter 1, General Provisions after removal from its place of deposit in nature, unless authorized in a general or specific license issued by the Department pursuant to this Chapter.

(c) In instances where this Chapter conflicts with Chapter 11 of the Non-Coal Rules and Regulations, this Chapter shall govern.

### **Section 3. Incorporation by Reference.**

(a) Any reference in these rules to requirements, or procedures contained in 10 Code of Federal Regulations (C.F.R.) **Part** 40, Sections **40.2(a)**, 40.36(f), 40.51, 40.54, 40.55, 40.61, and Appendix A shall constitute the full adoption by reference of that part and subparts as they appear in 10 C.F.R. 40, Appendix A, revised as of January 1, ~~2016~~**2017**, unless expressly provided otherwise in these rules. These rules do not include any later amendments or editions of incorporated matter.

(b) The following 10 C.F.R. portions, including all subparts, as of January 1, ~~2016~~**2017** are excluded from these rules and are not incorporated by reference: 40.51(b)(6) and the following portions of 10 C.F.R. Part 40, Appendix A: Introduction definitions; Section III Site and Byproduct Material Ownership, **Criterion 9(h)(4)**, Criterion 11; and Section IV Long-Term Site Surveillance, Criterion 12.

(c) Any reference in these rules to requirements, or procedures contained in 10 C.F.R. §§ **150.20 and** 150.31 shall constitute the full adoption by reference of that part and subparts as they appear in 10 C.F.R. §§ **150.20 and** 150.31, revised as of January 1, ~~2016~~**2017**, unless expressly provided otherwise in these rules. These rules do not include any later amendments or editions of incorporated matter.

(d) The following sections, as of January 1, ~~2016~~**2017** are excluded from these rules and are not incorporated by reference: 10 C.F.R. § 150.15, 150.15(a), and 150.31(b)**(3)**(iv). The NRC shall retain the rights reserved to the NRC in 10 C.F.R. §§ 150.15 and 150.15(a).

### **Section 4. Deliberate Misconduct.**

(a) Any licensee, applicant for a license, employee of a licensee or applicant, or any contractor (including a supplier or consultant), subcontractor, employee of a contractor or subcontractor of any licensee or applicant for a license, who knowingly provides to any licensee, applicant, contractor, or subcontractor, any component, equipment, materials, or other goods or services that relate to a licensee's or applicant's activities in part, may not:

(i) Engage in deliberate misconduct that causes or would have caused, if not detected, a licensee or applicant to be in violation of any rule, regulation, or order; or any term, condition, or limitation of any license issued by the Department.

(ii) Deliberately submit to the NRC or Department information known to be materially incomplete or inaccurate.

(b) The Department may bring an enforcement action against any person who violates subparagraphs (a)(i) or (a)(ii) of this section.

(c) Deliberate misconduct means an intentional act or omission that the person knows:

(i) Would cause a licensee or applicant to be in violation of any rule, regulation, or order; or any term, condition, or limitation, of any license issued by the Department; or

(ii) Constitutes a violation of a requirement, procedure, instruction, contract, purchase order, or policy of a licensee or applicant as mandated by the Department.

### **Section 5. Filing an Application for a Specific License.**

(a) Two copies of the application for a specific license shall be mailed, or sent electronically as approved by the Administrator, to the Department accompanied with the license application fee, pursuant to Chapter 13 of these rules to:

Wyoming Department of Environmental Quality

Land Quality Division

200 W. 17<sup>th</sup> Street, Suite 10

Cheyenne, WY 82002

(b) The application for a specific license, and copies thereof, may be submitted in conjunction with an application for a mining permit as described in [Wyoming Statute \(W.S.\) §§ 35-11-406 and -428 \(2015\)](#). An application for a specific license, and copies thereof, shall be presented in a clean and orderly manner, as determined appropriate by the Department. Hard copies of specific license applications shall be bound, with the use of a three ring binder or something comparable, such that the information is easily accessible and pages are not misplaced.

(c) A permit to mine, when applicable, shall be obtained prior to the license being issued. Failure to obtain a permit to mine shall be grounds for refusing to issue a license. As determined by the Department, activities such as toll milling shall not require a permit to mine.

(d) Information provided by an applicant or licensee to the Department shall be complete and accurate in all material respects.

(e) Each applicant or licensee shall notify the Department of information identified by the applicant or licensee as having, for the regulated activity, a significant implication for public health and safety. An applicant or licensee violates this paragraph only if the applicant or licensee fails to notify the Department of information that the applicant or licensee has identified as having a significant implication for public health and safety. This requirement is not

applicable to information which is already required to be provided to the Department by other reporting requirements.

## **Section 6. Exemptions from Regulatory Requirements.**

(a) Any person is exempt from this Chapter to the extent that such person receives title to, acquires, owns, possesses, uses, or transfers source material in any chemical mixture, compound, solution, or alloy in which the source material is by weight less than one-twentieth of one percent (0.05 percent) of the mixture, compound, solution, or alloy. The exemption contained in this paragraph does not apply to Australian-obligated source material, nor does it include byproduct materials as defined in these rules.

(b) Any person is exempt from this Chapter to the extent that such person receives, possesses, uses, or transfers unrefined and unprocessed ore containing source material provided that, except as authorized in specific license, such person shall not refine or process such ores.

(c) No person may introduce source or byproduct material into a product or material either knowing or having reason to believe that it will be transferred to persons exempt under this Chapter.

(d) The Department may, upon its own initiative or the application of an interested person, grant such exemptions from the requirements of this Chapter as authorized by law and, as determined by the Department, will not endanger life, property, and is otherwise in the public interest.

(e) Common and contract carriers, freight forwarders, warehousemen, and the United States Postal Service are exempt from the requirements of this Chapter and the requirements set forth in Section 81 of the Atomic Energy Act of 1954, 42 U.S.C. §§ 2011 *et seq.*, as amended to the extent that they transport or store byproduct material in the regular course of carriage for another or storage incident thereto.

(f) Except to the extent that the Department of Energy's (DOE) facilities or activities, subject to licensing pursuant to Section 202 of the Energy Reorganization Act of 1974 (42 U.S.C. § 5842.), are involved, any prime contractor of the DOE is exempt from the requirements for a license set forth in 81 and 82 of the Act (42 U.S.C. § 2111 and 42 U.S.C. § 2112) and from this Chapter to the extent that such contractor, under his prime contract with the DOE manufactures, produces, transfers, receives, acquires, owns, possesses, or uses byproduct material for:

(i) The performance of work for the DOE at a United States Government owned or controlled site, including the transportation of byproduct material to or from such site and the performance of contract services during temporary interruptions of such transportation;

(ii) Research in, or development, manufacture, storage, testing, or transportation of, atomic weapons or components thereof; or

(iii) The use or operation of nuclear reactors or other nuclear devices in a United States Government owned vehicle or vessel.

(g) This Chapter shall not be deemed to authorize the import of radioactive material or products containing radioactive material.

#### **Section 7. Pre-Licensing Construction.**

(a) Except as provided in this Chapter, the applicant shall not commence construction at any plant or facility in which the licensed activity will occur until the Department has issued a license. Commencement of construction, defined in Chapter 1 of these rules, prior to issuance of the license may be grounds for denial of a license.

(b) At a minimum, an application for a specific license to receive title to, acquire, own, possess, use, transfer, offer or receive for transport and use licensed material shall be filed with the Department at least nine (9) months prior to the commencement of construction of any plant or facility in which the licensed activity will occur, and in accordance with existing applicable law, including Chapter 3 of the Non-Coal Rules and Regulations.

#### **Section 8. General Requirements for Issuance of Specific Licenses**

(a) An application for a specific license may be approved if the Department determines that:

(i) The applicant is qualified by reason of training and experience, to use licensed material for the purpose requested in the subject application consistent with the governing statutes and rules and in such a manner as to minimize danger to public health and safety, or property;

(ii) The applicant's proposed equipment, facilities, and procedures are adequate to minimize danger to public health and safety or property;

(iii) The applicant satisfies the requirements listed in this Chapter;

(iv) The issuance of the license will not be detrimental to the health and safety of the public; ~~and~~

(v) The applicant is financially qualified to conduct the licensed activity, including any required decontamination, decommissioning, reclamation, or disposal; and

(vi) The applicant has satisfied the requirements of Chapter 6 of these rules.

(b) The Department may at any time after the filing of the original application, and before the expiration of the license, require further statements in order to enable the Department to determine whether the application should be granted or denied or whether a license should be

modified or revoked. All applications and statements shall be signed by the applicant or a person duly authorized to act for and on his behalf.

(c) Upon determination that an application meets the requirements of the Act, applicable rules, and public health and safety considerations, the Department may issue a specific license authorizing the proposed activity in such form, and containing such conditions and limitations, as the Department deems appropriate or necessary.

(d) The Department may incorporate conditions or provisions in any license at the time of issuance, with respect to the licensee's receipt, possession, use, and transfer of licensed material subject to this Chapter as it deems appropriate or necessary in order to:

- (i) Minimize danger to public health and safety, and the environment;
- (ii) Require reports and recordkeeping, and to provide for such inspections of activities under the license as may be appropriate and necessary; and
- (iii) Prevent loss or theft of licensed material subject to this Chapter.

(e) All licenses, whether issued by the NRC or the Department, and the authorization to possess or utilize licensed material cannot be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of any license to any person unless the Department, after securing full information, determines the transfer is in accordance with the Act and these rules. Upon the transfer of an existing license, the new licensee shall comply with existing laws and license conditions. The Department may impose new license conditions to be complied with by the new licensee as it deems necessary.

(f) Each licensee pursuant to this Chapter shall confine use and possession of licensed material to the locations and purposes authorized in the license.

(g) Each licensee shall notify the Department in writing when the licensee decides to permanently discontinue all activities involving materials authorized under the license.

(h) Each licensee shall notify the Department in writing within seven (7) business days following the filing of voluntary or involuntary petition for bankruptcy under any Chapter of the United States Code (U.S.C.) by or against:

- (i) The licensee;
- (ii) An entity controlling the licensee, or listing the license or licensee as property of the estate as that term is defined in 11 U.S.C. § 101(14); or
- (iii) An affiliate of the licensee as that term is defined in 11 U.S.C. § 101(2).

(i) The written notification of bankruptcy submitted to the Department shall identify the bankruptcy court in which the petition for bankruptcy was filed, the case number, and the date of filing.

(j) The licensee shall allow the Department, to enter and inspect any licensed area as provided by W.S. §§ 35-11-109(a)(iv), (v) and (vi). The licensee shall obtain for the Department the right to access and cross over private lands leading to or within a licensed area for inspection of regulated activities consistent with state law and these rules. The right to access and cross over private property shall be in writing, notarized, included in the application, and contain the following:

(i) The name of the landowner of the property to be accessed or crossed;

(ii) A legal description of the lands, using Public Land Survey System nomenclature that will be crossed during the inspection process;

(iii) A declarative statement from the landowner providing the Department permission to access the described private property for the inspection of regulated activities; and

(iv) The landowner's signature.

(v) In lieu of the foregoing, the licensee may provide the Department with an executed Department, Land Quality Division, Form 8 or a copy of the Surface Use Agreement clearly providing the Department the authority to access or cross over the subject private property.

### **Section 9. Specific Requirements for Issuance of Specific Licenses**

(a) A specific license for source material involved in the extraction and concentration of uranium or thorium at uranium or thorium facilities and for the management and disposal of byproduct material will be issued if the applicant submits to the Department a complete and accurate application that clearly demonstrates how the requirements and objectives of this Chapter are met.

(b) An application for a license, including applications for the amendment or renewal of an existing license, to receive, possess and use licensed material shall contain all information required under these rules and such material as the Department may deem necessary. The application shall, at a minimum, contain the following information:

(i) A description of the proposed project or action;

(ii) For new licenses, environmental data that includes the results of a one-year preoperational monitoring program;

(iii) For renewal of licenses, environmental data containing results of the operational monitoring program or monitoring required to be conducted if the facility was not in operation but in standby mode;

(iv) Site characteristics, including regional and site specific geology, topography, hydrology, and meteorology;

(v) Radiological and non-radiological impacts of the proposed project or action including waterway and groundwater impacts;

(vi) An assessment of the radiological and non-radiological impacts to the public health and the environment;

(vii) Consideration of the long-term impacts of the licensed activities;

(viii) A representative presentation of the physical, chemical, and radiological properties of the type of licensed material to be received, stored, processed, or disposed of;

(ix) An evaluation of the short-term and long-term environmental impacts of such receipt, storage, processing, or disposal;

(x) An analysis of the environmental, economic, social, technical, and other benefits of the proposed activities against environmental costs and social effects;

(xi) Environmental effects of accidents;

(xii) Byproduct material disposal, decommissioning, decontamination, reclamation, and impacts of these activities;

(xiii) A closure plan to be included in the reclamation plan for decontamination, decommissioning, restoration, and reclamation of buildings of the licensed area to levels that would allow where applicable unrestricted use and for reclamation of the byproduct material disposal areas in accordance with technical requirements of 10 C.F.R. Part 40, Appendix A;

(xiv) Proposal of an acceptable form and amount of financial assurance in accordance with 10 C.F.R. Part 40, Criterion 9 of Appendix A; and the Department's rules;

(xv) Specifications for the emissions control and disposition of byproduct material; and

(xvi) Emergency response protocol.

(c) For applications for a new license or application for a license amendment to expand the licensed site, proof of mailed notification to the owner or owners of the property on which licensed material ~~is are~~ recovered, stored, processed, or disposed of must be demonstrated to the Department. The applicant for a new license must demonstrate that the owner or owners

of the property were sent by certified United States mail, notification from the applicant stating that:

(i) Licensed radioactive material will be recovered, stored, processed, or disposed on the property; and

(ii) Decommissioning by the Department, funded by a surety, or as directed by order may be required and performed on the licensed site even if the licensee is unable or fails to decommission the licensed site as required by license.

(d) Environmental concerns outlined in subsection (b) of this section need to be resolved when the Department:

(i) Receives application for a new specific license or renewal of a specific license;

(ii) Receives an amendment request that would authorize or result in:

(A) A significant expansion of a site;

(B) A significant change in the type of releases;

(C) A significant increase in the amounts of releases;

(D) A significant increase in individual or cumulative occupational radiation exposure; or

(E) A significant increase in the potential for or consequences from radiological accidents.

(e) The Department may exempt an applicant or licensee from the requirement to submit additional environmental impact information on the determination that environmental concerns are addressed through information previously provided to the Department.

(i) In considering exemptions, the Department may request additional information to ensure that no significant environmental impacts will result from the proposed or licensed activity.

(f) The applicant shall provide written specification describing the means employed so that all airborne effluent releases are reduced to levels as low as is reasonably achievable (ALARA) during the operational phase of any project.

(g) During any one full year prior to submittal of a new application or an amendment to expand the licensed area or operations, the applicant or licensee shall conduct a preoperational monitoring program to provide complete baseline data on an in-situ recovery or a conventional milling site describing its pre-operational environment condition.

(h) Throughout the construction and operating phases of the in-situ recovery facility or conventional mill, the applicant or licensee shall conduct an operational monitoring program to measure or evaluate compliance with applicable standards and regulations, in order to evaluate performance of control systems and procedures, environmental impacts of operation, and to detect potential long-term effects.

(i) Upon receipt of the license application or any amendments thereto, and of any other documents required, the Department may transmit information for review and comment to federal, state, and local agencies having expertise in or jurisdiction over the proposed project or activity. Written comments and reports of reviewing agencies may be considered by the Department in its decision-making review process on the license application or amendment.

(i) If an Environmental Impact Statement (EIS) or Environmental Assessment (EA) is required by a federal agency pursuant to the National Environmental Policy Act of 1969 (NEPA) and is provided by such federal agency, it may be used in the Department's decision-making review process.

(j) An application for a license shall contain proposed specifications relating to the recovery or milling operations and management and disposition of tailings or wastes resulting from such recovery or milling activities to achieve the requirements and objectives set forth in the criteria listed in 10 C.F.R. Part 40, Appendix A. Each applicant for a new license or for license renewal must clearly demonstrate how the requirements and objectives set forth in 10 C.F.R. Part 40, Appendix A have been addressed. Failure to clearly demonstrate how the requirements and objectives in 10 C.F.R. Part 40, Appendix A have been addressed shall be grounds for refusing to approve an application.

## **Section 10. Operational Requirements.**

Each licensee shall:

(a) Operate in accordance with the requirements and objectives of 10 C.F.R. Part 40, Appendix A, and this Chapter, including the procedures required by Section 9(f) and the monitoring required by Section 9(g).

(b) Submit a semi-annual report to the Department within sixty (60) days following January 1 and July 1 of each year. The report must specify the quantity of each of the principal radionuclides released to unrestricted areas in liquid and in gaseous effluents during the previous six months of operation, and such other information as the Department may require to estimate the maximum potential annual radiation doses to the public resulting from effluent releases. If quantities of radioactive materials released during the reporting period are significantly above the licensee's design objectives previously reviewed as part of the most recent licensing action, the report shall cover this specifically. On the basis of such reports or any additional information the Department may obtain from the licensee or others, the Department may require the licensee to

take such actions as the Department deems appropriate to protect public health and safety and the environment.

(c) Licensee shall report events that have significant radiological effects on employee safety, public health, or the environment to the Department according to the following:

(i) All licensees shall notify the Department as soon as possible but no later than four (4) hours after the discovery of an event that prevents immediate protective actions necessary to avoid exposure to radiation or licensed materials that could exceed regulatory limits (events may include fires, explosions, toxic gas releases, etc.). The following events require immediate notification to the Department:

(A) Any failure in a tailings or waste retention system which results in a release of tailings or waste into unrestricted areas; and

(B) Any unusual conditions which are not contemplated in the design of the retention system and which if not corrected could lead to failure of the system and result in a release of tailings or waste into unrestricted areas.

(ii) Each licensee shall notify the Department within twenty-four (24) hours after the discovery of any of the following events involving licensed material:

(A) An unplanned contamination event that:

(I) Requires access to the contaminated area, by workers or the public, to be restricted for more than twenty-four (24) hours by imposing additional radiological controls or by prohibiting entry into the area;

(II) Involves a quantity of material greater than five times the lowest annual limit on intake specified in 10 C.F.R. Part 20, Appendix B; and

(III) Requires access to the area restricted for a radiological safety reason other than to allow isotopes with a half-life of less than twenty-four (24) hours to decay prior to decontamination.

(B) An event in which equipment is disabled or fails to function as designed when:

(I) The equipment is required by regulation or license condition to prevent releases exceeding regulatory limits, to prevent exposures to radiation and radioactive materials exceeding regulatory limits, or to mitigate the consequences of an accident;

(II) The equipment is required to be available and operable when it is disabled or fails to function; and

(III) No redundant equipment is available and operable to perform required safety function.

(C) An event that requires unplanned medical treatment at a medical facility of an individual with spreadable radioactive contamination on the individual's clothing or body;

(D) An unplanned fire or explosion damaging any licensed material or any device, container, or equipment containing licensed material when:

(I) The quantity of material involved is greater than five times the lowest annual limit on intake specified in 10 C.F.R. Part 20, Appendix B.

(II) The damage affects the integrity of the licensed material or its container.

(iii) Reporting of spills of licensed material and excursions shall be done pursuant to Chapter 11 of the Non-Coal Rules and Regulations.

(iv) Reports made by the licensees in response to the requirements of this section must be made as follows:

(A) Licensees shall make reports required by Sections 10(c)(i) and 10(c)(ii) of this Chapter by telephone to the Department. To the extent that the information is available at the time of notification, the information provided in these reports must include:

(I) The caller's name and call back telephone number;

(II) A description of the event, including date and time;

(III) The exact location of the event;

(IV) The isotopes, quantities, and chemical and physical form of the licensed material involved; and

(V) Any personnel radiation exposure data available.

(B) Licensees who make a report required by Section 10(c)(iii) of this Chapter shall submit a written follow-up report as prescribed in Chapter 11 of the Non-Coal Rules and Regulations.

(C) Written reports prepared pursuant to other applicable rules may be submitted to fulfill this requirement if the reports contain all of the necessary information and the appropriate distribution is made. The reports must include the following:

- (I) A description of the event, including the probable cause and the manufacturer and model number (if applicable) of any equipment that failed or malfunctioned;
- (II) The exact location of the event;
- (III) A description of the isotopes, quantities, and chemical and physical form of the licensed material involved;
- (IV) Date and time of the event;
- (V) Corrective actions taken or planned and the result of any evaluations or assessments;
- (VI) Timely schedule for remediation of the spill or release, if required; and
- (VII) The extent of exposure of individuals to radiation or to radioactive materials without identification of the individuals by name.

#### **Section 11 Expiration and Termination of Licenses.**

- (a) The term of the specific license is for a fixed term not to exceed ten (10) years.
- (b) Expiration of the specific license does not relieve the licensee of the requirements of the Act, these rules, or existing license conditions.
- (c) All license provisions continue in effect beyond the expiration date with respect to possession of licensed material until the Department notifies the former licensee in writing that the provisions of the license are no longer binding. During this time, the former licensee must:
  - (i) Limit actions involving radioactive material to strictly decommissioning related activities; and
  - (ii) Continue to control entry to restricted areas until the location(s) is suitable for release for unrestricted use or for release for long-term care and maintenance.
- (d) A licensee shall notify the Department, in writing to request the termination of the license within seven (7) days from when the licensee decides to terminate all licensed activities. This notification and request for termination of the license shall include the reports on decommissioning and reclamation activities as required by this Chapter.
- (e) No less than thirty (30) days before the expiration date specified in the license, the licensee shall either:
  - (i) Submit an application for license renewal; or

(ii) Notify the Department, in writing, if the licensee decides not to renew the license.

(f) If a licensee does not submit a notification for a license renewal under Section 13 of this Chapter the licensee shall, on or before the expiration date specified in the license:

(i) Terminate use of licensed material;

(ii) Remove radioactive contamination to the extent practicable;

(iii) Properly dispose of the licensed material;

(iv) Submit a completed Department Form URP-314 or equivalent; and

(v) Conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey, unless the licensee demonstrates in some other manner that the premises are suitable for release in accordance with the criteria for decommissioning in this Chapter or the requirements in Criterion 6(6) of 10 C.F.R. Part 40, Appendix A. The licensee shall:

(A) Report levels of radioactivity, including alpha and beta in units of  $\mu\text{Ci}$  per  $100\text{cm}^2$  removable and fixed for surfaces,  $\mu\text{Ci}$  per milliliter for water, and  $\text{pCi}$  per gram for solids such as soils or concrete; and report levels of gamma radiation in units of microroentgen per hour at one meter from the surface.

(B) Specify the instrumentation used and certify that each instrument was properly calibrated and tested.

(C) If no residual radioactivity attributable to activities conducted under the license is detected or detectable residual radioactivity is below release criteria found in this Chapter, 10 C.F.R. 40 Appendix A, ~~or 10 C.F.R. 20.1401 through 1404~~, the licensee shall certify in writing that no detectable radioactivity contamination was found or it was below release criteria (Department Form URP-314 or equivalent). The Department will notify the licensee, in writing, of the termination of the license.

(D) If detectable levels of residual radioactive contamination attributable to activities conducted under the license are found above release criteria, the license continues in effect beyond the expiration date, if necessary, with respect to possession of residual radioactivity or radioactive material present as contamination until the Department notifies the licensee in writing that the license is terminated. During this time the licensee is subject to the provisions of subsection (c) of this section.

(g) In addition to the information provided in subsection (f) of this Section, the licensee shall submit a plan for decontamination within twelve (12) months after the time of license expiration, contemplating for the residual radioactivity remaining at the time the license

expires.

**Section 12. Renewal of Licenses.**

(a) A licensee shall notify the Department of their intent to renew their license at least thirty (30) days prior to the expiration of the existing license.

(i) Upon receipt of the notification to renew, the Department shall open the original license application, including, but not limited to, all applicable renewals and amendments, to:

(A) Ensure the application accurately reflects current operations;

(B) Incorporates changes to industrial standards codified in these rules;

and

(C) Incorporate operational data to accurately set design objectives.

(b) If an application for renewal has been filed at least thirty (30) days before the expiration date stated in the existing license, the existing license expires at the end of the day on which the Department makes a final determination to deny the renewal application or, if the determination states an expiration date, the expiration date stated in the determination.

**Section 13. Amendments of Licenses at Request of Licensee.**

(a) Application for amendment of a license shall be filed in accordance with Section 9 of this Chapter and shall specify the items which the licensee desires the license to be amended and the grounds for such amendment such items being beyond the scope of the licensee's ability to address under its performance based license.

(b) In considering an application by a licensee to renew or amend his license the Department will apply the applicable criteria set forth in Section 8(a) of this Chapter.

**Section 14. Modification and Revocation of Licenses.**

(a) The terms and conditions of all licenses shall be subject to amendment, revision, or modification at the request of the licensee.

(b) The Department may suspend or revoke a license for significant noncompliance to the Act, rules, regulations, or orders issued by the Department.

(c) The Department may suspend or revoke any license in whole or in part, for any false material statement in the application, any false statement of fact required under the provisions of the Act, or because of any report, record, or inspection or other means which would warrant the Department to refuse to grant a license on an original application.

(d) Except in the case of wanton and willful behavior or in situations where the public health, interest, or safety requires otherwise, no license shall be modified, suspended, or revoked unless, prior to the institution of proceedings therefore, facts or conduct which may warrant such action shall have been called to the attention of the licensee in writing and the licensee shall have been accorded an opportunity to demonstrate or achieve compliance with all lawful requirements.

### **Section 15. Public Notice.**

(a) Upon completion of the Department's review of an application, the Department shall provide notice to the public of issuance of an initial draft decision where the license application is approved, approved with conditions, or denied.

(i) The initial draft decision shall include, but is not limited to, the following:

(A) A decision analysis, that includes discussions on environmental impacts; and

(B) The final technical analysis conducted by the Department.

(ii) Upon issuance of the initial draft decision described in Section 15(a)(i), or a licensing action that significantly impacts the environment or public health and safety, the Department shall initiate a public comment process, and hold a public hearing upon written request from an “aggrieved party” as defined in W.S. § 35-11-103(a)(vii). If a public hearing is requested, the Department shall publish notice of the public hearing in a newspaper of statewide or general circulation or on the Department’s website ~~at least forty five (45) days~~ before the public hearing. The notice of the public hearing shall include:

(A) The time, place, and nature of the hearing;

(B) A copy of the initial draft decision; and

(C) A statement detailing where public comments may be submitted.

(iii) Pursuant to the request and notice described in Section 15(a)(ii), the Department shall hold a public hearing. Such hearing shall be transcribed and, at a minimum, require:

(A) The opportunity for cross-examination;

(B) A summary of the licensing activity proposed in the application;  
and

(C) An opportunity for the public to comment and be heard.

(iv) The Rules of Practice and Procedure applicable to hearings before the Department shall apply to hearings before the Department. To the extent that any inconsistencies exist between the Rules of Practice and Procedure and these rules, these rules shall govern.

(b) For applications which are denied, the Department shall issue a written summary containing the basis for denial.

(c) The applicant or licensee shall pay for the expenses associated with public notice, public comment, or public meetings associated with the specific licensing request by the applicant or licensee.

(d) Following the public comment period and public hearing associated with a specific licensing request, the Department shall, after review of the public comments received by the Department, issue a written final decision. The final decision must ban all major construction before the completion of the written environmental analysis. The final decision is subject to review by the Environmental Quality Council and judicial review in accordance with Wyoming law.

#### **Section 16. Decommissioning Requirements.**

(a) The licensee shall notify the Department in writing within sixty (60) days of the licensee deciding to permanently cease principle activities at the entire site or in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with these regulations.

(b) The licensee shall notify the Department in writing within sixty (60) days if no principle activities under the license have been conducted for a period of twenty-four (24) months; or no principle activities have been conducted for a period of twenty-four (24) months in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with NRC regulations.

(c) From the date of written notification sent to the Department required in Sections 16(a) and (b), the licensee shall either:

(i) Begin decommissioning activities; or

(ii) Within twelve (12) months of written notification submit a decommissioning plan, if required by section 17(a) of this Chapter or 10 C.F.R. Part 40, Appendix A, and begin decommissioning upon the Department approval of that plan.

(d) The Department may grant a request to delay or postpone initiation of the decommissioning process if the Commission determines that such relief is not detrimental to the public health and safety and is otherwise in the public interest.

(e) Coinciding with and in addition to the notification requirements of Sections 16(a) and (b) of this Chapter, the licensee shall maintain in effect all decommissioning financial assurances as required by 10 C.F.R. Part 40, Appendix A. The amount of financial assurance must be increased, or may be decreased, as appropriate, to cover the detailed cost estimate for decommissioning established pursuant to Section 17 of this Chapter.

(f) The Department may approve an alternate schedule for the submission of plans and for the completion of decommissioning as required pursuant to Sections 16(a) and (b) if the Department determines that the alternate schedule: (1) is necessary to effectively conduct decommissioning, (2) presents no undue risks to public health and safety, and (3) is otherwise in the public's interest. The request for an alternate schedule must be submitted no later than thirty (30) days before the required notification in Section 16(a) of this Chapter. The schedule for decommissioning may not commence until the Department has made a determination on the request for an alternate schedule.

(g) Except as provided in subparagraph (e) of this Section,

(i) Licensees shall complete decommissioning of the site or separate building or outdoor area as soon as practicable but no later than twenty-four (24) months following the initiation of decommissioning.

(ii) Except as provided in subparagraph (f)(i) of this Section, when decommissioning involves the entire site, the licensee shall request license termination as soon as practicable but no later than twenty-four (24) months following the initiation of decommissioning.

(h) As the final step in decommissioning, the licensee shall:

(i) Certify the disposition of all licensed material, including accumulated wastes, by submitting a Department Form URP-314 or equivalent; and

(ii) Conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey, unless the licensee after approval by the Department demonstrates in some other manner that the premises are suitable for release in accordance with the criteria for decommissioning in this Chapter or criteria in 10 C.F.R. Part 40, Appendix A. The licensee shall, as appropriate:

(A) Report levels of gamma radiation in units of microrentgen (millisieverts) per hour at one meter from surfaces, and report levels of radioactivity, including alpha and beta, in units of microcuries (disintegrations per minute or megabecquerels) per 100 square centimeters removable and fixed for surfaces, microcuries (megabecquerels) per milliliter for water and picocuries (becquerels) per gram for solids such as soils or concrete; and

(B) Specify the survey instrument(s) used and certify that each instrument is properly calibrated and tested.

(i) Specific licenses, including expired licenses, will be terminated by written notice to the licensee when the Department determines, where applicable, that:

(i) Licensed material has been properly disposed;

(ii) Reasonable effort has been made to eliminate residual radioactive contamination, if present; and

(iii) A radiation survey has been performed which demonstrates that:

(A) The premises are suitable for release in accordance with the applicable criteria for decommissioning found in 10 C.F.R. Part 40, Appendix A; and

(B) Other information submitted by the licensee is sufficient to demonstrate that the premises are suitable for release in accordance with the applicable criteria found in 10 C.F.R. Part 40, Appendix A.

(iv) The licensee has satisfied the applicable technical and other requirements for closure and reclamation of an 11e.(2) byproduct material disposal site; and

(v) The NRC has made a determination that all applicable standards and requirements have been met.

(j) Specific licenses for uranium and thorium milling are exempt from subparagraph (e) of this section with respect to reclamation of tailings impoundments and/or waste disposal areas.

(k) A licensee may request that a subsite or a portion of a licensed area be released for unrestricted use before full license termination as long as release of the area of concern will not adversely impact the remaining unaffected areas and will not be recontaminated by ongoing authorized activities. When the licensee is confident that the area of concern will be acceptable to the Department for release for unrestricted use, a written request for release for unrestricted use and Department confirmation of closeout work performed shall be submitted to the Department. The request should include a comprehensive report, accompanied by survey and sample results that show contamination is less than the limits specified in 10 C.F.R. Par 40, Appendix A and an explanation of how ongoing authorized activities will not adversely affect the area proposed to be released. Upon confirmation by the Department that the area of concern is releasable for unrestricted use, the licensee may apply for a license amendment, if required.

(i) The Department will submit site releases to the NRC in accordance to SA-900 for approval; and.

(ii) Prior to terminating any license, the Administrator of the Land Quality Division receive approval and a determination from the NRC that the licensee has complied with the NRC's decontamination, decommissioning, disposal, and reclamation standards in accordance with SA-900.

## **Section 17. Decommissioning Plan.**

(a) Each licensee authorized to receive, possess, and use licensed material shall submit a plan for completion of decommissioning, if the procedures necessary to carry out decommissioning:

(i) Have not been previously approved by the Department; or

(ii) Could increase potential health and safety impacts to workers or to the public, such as in any of the following cases:

(A) Procedures would involve techniques not applied routinely during cleanup or maintenance operations;

(B) Workers would be entering areas not normally occupied where surface contamination and radiation levels are significantly higher than routinely encountered during operation;

(C) Procedures could result in significantly greater airborne concentrations of radioactive materials than are present during operation; or

(D) Procedures could result in significantly greater releases of radioactive material to the environment than those associated with operation.

(b) Procedures with potential health and safety impacts may not be carried out prior to approval of the decommissioning plan.

(c) The proposed decommissioning plan, if required by this Chapter or by license condition must include:

(i) Description of the condition of the site, separate buildings, or outdoor areas sufficient to evaluate the acceptability of the plan;

(ii) Description of planned decommissioning activities;

(iii) Description of methods used to assure protection of workers and the environment against radiation hazards during decommissioning;

(iv) A description of the planned final radiation survey; and

(v) An updated detailed cost estimate for decommissioning, comparison of that estimate with present funds set aside for decommissioning, and plan for assuring the availability of adequate funds for completion of decommissioning.

(A) For decommissioning plans calling for completion of decommissioning later than twenty-four (24) months after plan approval, the licensee must provide a justification for any delay based on the criteria in subsection (f) of this Section.

(d) Except as provided in subsection (f) of this Section, the licensee shall complete decommissioning of the site, separate buildings, ~~or~~ and outdoor area as soon as practicable but no later than twenty-four (24) months following the initiation of decommissioning.

(e) Except as provided in subsection (f) of this Section, when decommissioning involves the licensed area, the licensee shall request license termination as soon as practicable but no later than twenty-four (24) months following the initiation of decommissioning.

(f) The Department may approve a request for an alternate schedule for completion of decommissioning of the site or separate building or outdoor area, and license termination if appropriate and if the Department determines that the alternative schedule is warranted. In doing so, the Department shall consider the following:

(i) Whether it is technically feasible to complete decommissioning within the allotted twenty-four (24) month period;

(ii) Whether sufficient waste disposal capacity is available to allow completion of decommissioning within the allotted twenty-four (24) month period;

(A) Including whether a significant volume reduction in wastes requiring disposal will be achieved by allowing short-lived radionuclides to decay.

(iii) Whether a significant reduction in radiation exposure to workers can be achieved by allowing short-lived radionuclides to decay; and

(iv) Other site specific factors which the Department may consider appropriate on a case-by-case basis, such as the regulatory requirement of other government agencies, lawsuits, groundwater treatment activities, monitored natural groundwater restoration, actions that could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee.

(g) After submittal and upon approval of the decommissioning plan by the Department, the licensee shall decommission in accordance with the approved plan. As a final step in the decommissioning the licensee shall:

(i) Certify the disposition of all licensed material, including accumulated wastes, by submitting a completed Department Form URP-314 or equivalent;

(ii) Conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey, unless the licensee demonstrates in some other manner that the premises are suitable for release in accordance with

the criteria for decommissioning in this Chapter or the requirements in Criterion 6(6) of 10 C.F.R. Part 40, Appendix A. The licensee shall:

(A) Report levels of gamma radiation in units of microroentgen (millisieverts) per hour at one meter from surfaces, and report levels of radioactivity, including alpha and beta, in units of microcuries (disintegrations per minute or megabecquerels) per 100 square centimeters removable and fixed for surfaces, microcuries (megabecquerels) per milliliter for water and picocuries (becquerels) per gram for solids such as soils or concrete; and

(B) Specify the survey instrument(s) used and certify that each instrument is properly calibrated and tested.

## CHAPTER 5

### NOTICES, INSTRUCTIONS, AND REPORTS TO WORKERS

#### **Section 1. Purpose.**

(a) This Chapter establishes requirements for notices, instructions, and reports by licensees to individuals engaged in work under a license and options available to such individuals in connection with the Department's inspections of licensees to ascertain compliance with the provisions of the Wyoming Environmental Quality Act, Wyoming Statute §§ 35-11-2001 *et seq.* ~~(2016)~~, and regulations, orders, and licenses issued thereunder regarding radiological working conditions as specified within the provision of the Atomic Energy Act of 1954, as amended.

#### **Section 2. Scope.**

(a) This Chapter applies to all persons who receive, possess, use, own, or transfer licensed material.

#### **Section 3. Incorporation by Reference (IBR) of 10 Code of Federal Regulations (C.F.R.) Part 19; Notice, Instructions and Reports to Workers: Inspection and Investigations.**

(a) The Department fully adopts and hereby incorporates by reference 10 C.F.R, Part 19, revised as of January 1, ~~2016~~2017, including all sections and any notes and appendices therein, unless expressly provided otherwise in these rules. These rules do not include any later amendments or editions of the incorporated matter.

(b) The following 10 C.F.R. sections as listed on January 1, ~~2016~~2017 are excluded from these rules: 19.1, 19.2, 19.3, 19.5, 19.8, 19.14(a), and 19.18.

(c) Any references in 10 C.F.R. Part 19 adopted by reference to the United States Nuclear Regulatory Commission (NRC) or any component thereof shall be deemed to be a reference to the Department.

(d) Any reference in the federal rules adopted by reference to the Commission's "Form 3" shall be deemed a reference to the Department's "Uranium Recovery Program Form 3."

## CHAPTER 6

### FINANCIAL ASSURANCE REQUIREMENTS

#### Section 1. Purpose.

(a) This Chapter provides for financial assurance arrangements in support of decontamination, decommissioning, reclamation, restoration, disposal, and any other activity required by the Department, for costs associated with the licensed facilities and sites.

#### Section 2. Scope.

(a) This Chapter sets forth the requirements of Wyoming Statute (W.S.) §§ 35-11-417 through 418 ~~(2016)~~ and 35-11-2003(e) ~~(2016)~~ for the establishment of financial assurance arrangements for licensees listed in these rules. Such financial assurance arrangements may consist of surety bonds, federally insured certificates of deposit payable to the Department, cash deposits, certificates of deposits, deposits of government securities, irrevocable letters of credit issued by a bank organized to do business in the United States, or any combination of approved mechanisms.

(b) Licensees shall comply with the requirements of 10 Code of Federal Regulations (C.F.R.) Part 40, Appendix A, Criterion 9 and 10, as incorporated by reference in Chapter 4 of these rules.

#### Section 3. Terms Unique to Financial Assurance.

(a) "Annual Review" is conducted during the review of the annual report which is due on the anniversary date of the establishment of the permit to mine or source material license in circumstances where no permit exists.

(b) "Cost Estimate" means a document containing the total costs that would be incurred if an independent contractor were hired to perform the decommissioning of the facility and disposal of licensed material, and all associated costs to the Department in conducting decommissioning oversight. Costs must reflect current approved estimated costs.

(c) "Facility" means the location within one building, vehicle, or under one roof and under the same administrative control: (1) at which the possession, use, processing, or storage of licensed material is or was authorized; or (2) may also mean multiple such locations at a site or part of a site.

#### Section 4. Financial Assurance.

(a) The Department requires specific source and byproduct material licensees to furnish a decommissioning financial assurance arrangement in a dollar amount approved by the Department, as necessary to protect public health and safety, to ensure corrective action during

operation, to ensure decontamination and decommissioning of a facility or site, and for disposal of licensed material in the event of abandonment, insolvency, or other inability of the licensee to meet the requirements of the license, the Act, or these rules.

(b) The costs associated with reclamation and long term care and maintenance in accordance with this chapter shall be sufficient to ensure compliance with those standards established by the Department pertaining to bonds, sureties, and other financial arrangements to ensure adequate reclamation and long term management of such byproduct material and its disposal.

(c) Licensees shall provide the Department with cost-estimates that are reasonably accurate and these estimates shall include costs for the following:

(i) Disposal of licensed material;

(ii) Decontamination and decommissioning of buildings, facilities, and the site to a standard which achieves levels that allow release for unrestricted use of these areas upon decommissioning;

(iii) Reclamation of byproduct material disposal areas in accordance with the technical criteria detailed in 10 C.F.R. Part 40, Appendix A;

(iv) Aquifer restoration which is based on the physical characteristics of the mining aquifer; the cost of equipment, labor, and administration; and any other data required under 10 C.F.R. Part 40, Appendix A Criterion 5(b)(5) and Chapter 11 of the Non-Coal Rules and Regulations;

(A) Other operational activities that have impacted groundwater as detailed in 10 C.F.R. Part 40, Appendix A, Criterion 5(b).

(v) Costs that would be incurred if an independent contractor was hired to dispose of radioactive materials and perform decontamination, decommissioning, and reclamation work including:

(A) The cost of removal and/or disposal of licensed material which is generated, stored, processed, or otherwise present at the facility or site; and

(B) The probable extent of contamination through the possession or use of licensed material, at or adjacent to the facility or site, and the probable cost of removal of such contamination;

(vi) An adequate contingency factor.

(vii) For sites requiring long-term care and maintenance, a minimum charge of two-hundred and fifty thousand dollars (\$250,000.00), in 1978 dollars, shall be included in the

financial assurance established by the licensee to cover the costs of long-term care and maintenance.

(d) Prior to approval of an application for a new license, an applicant shall establish financial assurance arrangements to ensure the decontamination and decommissioning of the facility.

(e) Prior to termination of a license, a licensee shall establish a fund adequate and sufficient to cover the payment of the cost for long-term care and monitoring, the amount of which shall be approved by the NRC, pursuant to Criteria 9 and 10 of 10 C.F.R. Part 40, Appendix A.

(f) Applicants shall provide an executed original copy of each financial assurance instrument required by this Chapter for approval by the Department as appropriate.

(i) An applicant for a new license shall submit a certification that financial assurance for decommissioning has been provided in the amount required by this Chapter. An executed original copy of each financial assurance instrument required by this Chapter and approved by the Department shall be submitted to the Department sixty (60) days prior to the approval of the Permit to Mine and Source Material License.

#### **Section 5. Acceptable Financial Assurance Methods.**

(a) Refer to W.S. §§ 35-11-417 through 418 (~~2016~~) for acceptable financial instruments and assurances.

(b) Self-insurance, or any arrangement that essentially constitutes self-insurance (for example, a contract with a state or federal agency), including bonding pursuant to W.S. § 35-11-417(d) (~~2016~~) will not satisfy the financial assurance requirements of these rules.

(c) The term of the financial assurance warranty shall automatically renew until termination of the license by the Department, unless it can be demonstrated that another arrangement would provide an acceptable level of assurance. The requirements for cancellation or substitution of the financial assurance warranty are outlined in W.S. §§ 35-11-420 and 35-11-421 (~~2016~~).

(d) The value of the financial assurance warranty shall not be dependent upon the success, profitability, or continued operation of the licensed operation.

#### **Section 6. Periodic Review of Financial Assurances.**

(a) As part of the annual report, a licensee shall provide to the Department written proof of the value of existing financial warranties and any licensee-proposed changes to the financial assurance warranties, including updated decommissioning plans, changes in cost estimates, or the changes to the type of warranty. The report shall describe any changes in

operations, estimated costs, or any other circumstances that may affect the amount of required financial assurance warranties, including any increased cost attributable to inflation.

(b) Each financial assurance shall be subject to annual review, at a minimum, and approval by the Department to assure its continued adequacy of each warranty.

(c) With the approval of the Department, changes to the amount of a decommissioning financial assurance instrument may occur to account for increases or decreases in cost estimates resulting from inflation or deflation, changes in engineering plans, activities performed, or changes in any other condition affecting disposal, decontamination, and decommissioning costs.

(i) With the approval of the Department, reduction in the amount of decommissioning financial assurance ~~instrument~~ may occur as decommissioning activities are completed, in accordance with an approved decommissioning plan or to reflect current site conditions and license authorization.

(d) Appropriate and adequate decommissioning financial assurances shall be maintained in effect and in good standing by the licensee until termination of the license or as otherwise authorized by the Department, regardless of whether decommissioning is phased through the life of licensed operations or occurs at the end.

#### **Section 7. Long-Term Care and Maintenance Financial Assurances.**

(a) In addition to the decommissioning warranty required by this Chapter, the Department may require licensees to provide a long-term care warranty of the licensed facility if the facility will remain a disposal site for 11e.(2) byproduct material subsequent to the termination of the license, or the license will be terminated using the criteria in ~~10 C.F.R. §§ 20.1402, 20.1404, and~~ 10 C.F.R., Part 40, Appendix A.

(i) The amount of funds to be provided by such long-term care warranties shall be based on approved cost estimates as determined by the Department, U.S. Department of Energy (DOE), and NRC, and shall be sufficient to cover the annual costs of site surveillance, including reasonable administrative costs incurred, subsequent to the termination of the license.

(ii) For each licensee going to long-term care, the long-term care warranty must have a minimum value equivalent to two hundred and fifty thousand dollars (\$250,000.00) in 1978 dollars.

(A) The value of the long-term care warranty shall be adjusted annually to recognize inflation.

(I) The inflation rate to be used for this adjustment is that indicated by the change in the Consumer Price Index for All Urban Consumers published by the U.S. Department of Labor, Bureau of Labor Statistics.

(II) The Licensee may use other reasonable resources to analyze the inflation rate provided the amount of long-term care warranty is acceptable to the Department.

(iii) Cost estimates for facilities and sites requiring long-term care subsequent to license termination are to be based on the final disposition of wastes such that ongoing active maintenance is not necessary to preserve isolation.

(A) It is expected that, at a minimum, annual site inspections shall be conducted to confirm the integrity of the stabilized waste systems and to determine the need, if any, for maintenance and/or monitoring.

(B) Cost estimates shall be adjusted if more frequent site inspections are required based on an evaluation of a particular site.

(iv) For sites decommissioned in accordance with ~~10 C.F.R. §§ 20.1403, 20.1404, and~~ 10 C.F.R. Part 40, Appendix A, ~~Cost~~ cost estimates for long-term care subsequent to license termination must be sufficient to enable the Department or the DOE to:

(A) Perform periodic site inspections at least every five (5) years;

(B) Assure the continuation of institutional controls; and

(C) Assume responsibilities and carry out any necessary control and maintenance of the site. Cost estimates shall be adjusted to account for more frequent site inspections as required by the Department.

(v) Upon the determination by the Department that disposal, decommissioning, and decontamination requirements have been satisfied, and after the NRC has approved the Department's determination, the Department shall transfer the custody of the site and any funds for long-term care to the appropriate regulatory agency assuming long-term care and custody. Such funds include, but are not limited to, sums collected for long-term care and maintenance (i.e. continued site observation, monitoring, and necessary maintenance). Such funds do not include monies held as surety where no default has occurred and the required reclamation or other bonded activity has been performed.

(A) If the value of the long-term care warranty funds exceeds the amount required by the regulatory agency overseeing the long-term care of the site, then all such excess amounts shall be returned to the licensee.

## **Section 8. Financial Assurance Recordkeeping.**

(a) Licensees shall keep records of financial assurances throughout the life of the license, including, but not limited to, records of the cost estimate performed for the

decommissioning, the amount certified for decommissioning, and records of the funding method used for assuring funds.

## CHAPTER 7

### FEES

#### Section 1. Purpose.

(a) As authorized by the Act to support all direct and indirect costs associated with the operation of the Program, this Chapter establishes fees for radiation control services rendered by the Department and provisions regarding payment.

#### Section 2. Scope.

(a) These rules apply to a person who is:

(i) An applicant for or holder of a specific byproduct or source material license issued by the Department pursuant to Chapter 4 of these rules or by the NRC ~~and recognized by the Department~~ or another Agreement State; and

(ii) Required to have routine and non-routine safety inspections of licensed activities.

#### Section 3. Costs Generally.

(a) "Direct Costs" are operating costs directly assignable to the Program. Direct Costs include salaries, supplies, travel, and other costs incurred by the Program such as, but not limited to, costs associated with processing license applications, inspecting sites, and developing program rules.

(b) "Indirect Costs" are costs not directly assignable to the Program. Indirect Costs include the cost of activities such as human resource management, procurement, and accounting. Indirect Costs include the partial costs of state agencies such as Administration and Information, the Treasurer's Office, and other state agencies providing support or resources to the Program. These are costs which indirectly support the ability of the Program to function, but are not directly related to producing or inspecting a license or the immediate management of those functions. Uncollected fees from licensees will be charged as Indirect Costs for the following year. Indirect Costs will be collected by the Department as described in Section 4, below.

(c) Direct Costs fall into two different categories:

(i) "Site Specific Direct Costs" are incurred by the Department in the form of time and resources for a specific applicant or licensee. Site Specific Direct Costs shall include, but are not limited to, the costs of reviewing applications, amendments, inspections, or incident responses.

(ii) "Non-Site Specific Direct Costs" are not attributable to a specific licensee, but represent a cost to the Department attributable to the Program. These types of costs shall include, but are not limited to, materials such as paper and other office supplies, training of staff,

development of guidance documents, and other general administrative costs.

(d) The accumulation of costs can be described as follows:

(i) "Total Direct Costs" are the combination of the Site Specific Direct Costs and Non-Site Specific Direct Costs.

(ii) "Total Costs" are the sum of Site Specific Direct Costs, Non-Site Specific Direct Costs, and Indirect Costs.

(e) "Fiscal Year" is the twelve (12) month period from July 1 through June 30, as used by the State of Wyoming for budget formulation and execution.

(f) "Projected Costs" are the most recent two (2) year average of Total Costs assumed by the licensee.

#### **Section 4. Tracking Costs.**

(a) The Department shall keep a record of Site Specific Direct Costs associated with each license.

(b) Non-Site Specific Direct Costs shall be distributed to all licensees based on the proportion of an individual licensee's Site Specific Direct Costs, as compared to the combined Total Costs of all licensees. For example, if company X demands roughly fifty percent (50%) of the total billable Site-Specific Direct Costs for the Program they will be charged fifty percent (50%) of the Non-Site Specific Direct Costs.

(c) Indirect Costs will be calculated and allocated to licensees and the Program using the rates and basis for application detailed in the Cognizant Agency Negotiation Agreement, negotiated between the Department and the federal government. Indirect Costs are applied to both Site Specific and Non-Site Specific Direct Costs.

#### **Section 5. Application Fees.**

(a) All new license applications shall be accompanied by an initial one hundred thousand dollar (\$100,000.00) application fee. The application fee shall only cover the costs associated with processing the license application.

(b) The application fee shall be carried forward until the Department issues a license to the applicant. If the application fee is expended before the license is issued, an additional one hundred thousand dollar (\$100,000.00) application fee shall be assessed and collected from the applicant. This shall continue in increments of one hundred thousand dollars (\$100,000.00) until the Department issues a license to the applicant.

(c) Once the Department issues a license, the new licensee will be refunded or credited the amount of any unused portions of the application fee.

(d) Applicants that withdraw an application will not be refunded the unused application fee and forfeit any remaining initial application fees paid to the Department. However, applicants that withdraw an application after paying the additional application fees, as described in subparagraph (b) above, shall be refunded the unexpended balance of the additional application fees.

#### **Section 6. Annual Fees.**

(a) Annual fees are to be paid in full prior to the fiscal year for which the fees are assessed. The Department shall notify all licensees of the amount of their annual fee ninety (90) days prior to the start of the fiscal year. The annual fee must be received and processed prior to the Department taking any licensing or other requested action.

(b) Until the Department can establish Projected Costs for a licensee, the licensee shall be billed a predetermined annual fee. The predetermined annual fee shall be equal to the annual estimated cost of the Program divided by the total number of licensees.

(c) Once the Department establishes Projected Costs for a licensee, the licensee shall be assessed an annual fee based on the licensee's average Total Costs from the previous two years of operation.

(d) A new licensee shall be billed an annual fee equal to the average Total Costs of all licensees, until Projected Costs can be established.

(e) Following recognition of all costs for a fiscal year, the Department shall prepare a statement for each licensee showing the itemized actual Total Costs for the fiscal year.

(i) If the annual fee collected from the licensee exceeds the Total Costs attributable to the licensee, the statement shall be accompanied by a credit or refund of the difference in amounts to the licensee.

(ii) If the annual fee collected from the licensee is less than the Total Costs attributable to the licensee, the statement shall be accompanied by an invoice covering the difference in amounts owed to the Department. The licensee shall have sixty (60) days from the date of the invoice to pay the Department the full outstanding balance of the invoice.

(f) New licenses issued after the beginning of the fiscal year will be assessed an annual fee, as described above, but the fee will be prorated based on the date the license was issued.

(g) Failure to pay prescribed fees may result in, and is not limited to, the Department halting the processing of an amendment, suspending or revoking a license, or issuing a notice of violation and order as the Department deems necessary and appropriate to carry out the provisions of the Act.

(h) The minimum annual fee for all licensees is one thousand dollars (\$1,000.00).

**Section 7. Method of Payment.**

Payments made under this Chapter shall be paid in U.S. dollars through electronic funds transfer, check, or money order made payable to the Wyoming Department of Environmental Quality.

## CHAPTER 8

### RISK INFORMED, PERFORMANCE BASED LICENSING AND INSPECTION

#### Section 1. Purpose.

(a) This Chapter establishes a risk informed, performance based regulatory framework as it will be applied to licensees regulated by the Program. No undue risk to public health, safety, or the environment shall occur as a result of licensed operations by the licensee under this regulatory framework.

#### Section 2. Scope.

(a) Except as otherwise specifically provided, this Chapter applies to all persons who acquire, own, possess, use, transfer, offer and receive for transport, use, or dispose of any licensed material pursuant to these rules. Nothing in this Chapter shall apply to any person subject to regulation not relinquished by the NRC.

#### Section 3. Regulatory Approach.

(a) The Department shall determine licensing inspection actions, enforcement, and other decisions by the Program based on the risk informed, performance based regulatory approach which is a combination of the following approaches:

(i) "A risk informed approach" to regulatory decision-making represents a philosophy whereby risk insights are considered together with other factors to establish requirements that better focus licensee and regulatory attention on design and operational issues, pertaining to licensed material safety, commensurate with their importance to employee health and safety, public health and safety, and environmental protection.

(ii) "A performance based approach" to regulatory decision making represents a philosophy whereby performance standards are established that must be achieved by the licensee, but provides flexibility to the licensee as to the means of meeting those standards. This approach emphasizes results over process and methods and uses those results as the primary basis for regulatory decision-making. This approach incorporates the following attributes:

(A) Measurable (or calculable) parameters (i.e., direct measurements of the physical parameter of interest or of related parameters that can be used to calculate the parameter of interest) that exist to monitor a system, including facility and licensee performance;

(B) Objective criteria to assess performance are established based on risk insights, deterministic analysis, and performance history;

(C) Flexibility for licensees to determine how to meet the established performance criteria in ways that will encourage and reward improved outcomes; and

(D) Failure to meet a performance criteria, while undesirable, will not in and of itself constitute or result in an immediate safety concern.

(b) As part of the risk informed performance based regulatory approach, the Department shall utilize risk insight, engineering analysis and judgment, including the principle of defense-in-depth and incorporation of safety margins, and performance history to:

(i) Focus attention on the areas of greatest potential significance to human health, safety, and the environment;

(ii) Establish objective criteria for evaluating performance;

(iii) Develop measurable or calculable parameters for monitoring system and license performance;

(iv) Provide flexibility to licensees to determine how to meet the established performance criteria in a way that will encourage and reward outcomes; and

(v) Focus on the results as the primary basis for regulatory decisions.

#### **Section 4. Changes, Tests, or Experiments.**

(a) Subject to the conditions in Section 4(b) of this Chapter and without obtaining a license amendment pursuant to Chapter 4 of these rules, a licensee may:

(i) Make changes to the components of the licensed facility, which have a nexus to licensed material described in the most updated license application;

(ii) Make changes in the procedures as described in the most updated license application involving licensed material; and

(iii) Conduct tests or experiments not described in the most updated license application involving licensed material.

(b) The licensee shall obtain a license amendment pursuant to Chapter 4 of these rules prior to implementing a proposed change, test, or experiment if the change, test, or experiment would result in or create the following:

(i) More than a minimal increase in the frequency of occurrence of an accident involving licensed materials, previously evaluated in the most updated license application;

(ii) More than a minimal increase in the likelihood of occurrence of a malfunction of facility structure equipment, or monitoring system (SEMS) important to licensed material safety previously evaluated in the most updated license application;

- (iii) More than a minimal increase in the consequence of an accident involving licensed material previously evaluated in the most updated license application;
- (iv) More than a minimal increase in the consequences of a malfunction of a SEMS important to licensed material safety previously evaluated in the most updated license application;
- (v) A possibility for a credible and potentially significant accident scenario of a different type, involving licensed material, than any previously evaluated in the most updated license application;
- (vi) A possibility for a malfunction of a SEMS important to licensed material safety with a different result than previously evaluated in the most updated license application; and
- (vii) A departure from the method of evaluation of radiological safety described in the most updated license application used by the Department. For NRC licenses transferred and recognized by the Department, a departure from the method of evaluation of radiological safety discussed in the NRC's final safety evaluation report (SER), any federal environmental impact statement (EIS) or environmental assessment (EA), technical evaluation reports (TER), or other analyses and evaluation for license amendments.

(c) For purposes of this Chapter, and as applied to NRC licenses recognized by the Department, SEMS means any SEMS which have been referenced in an NRC SER, TER, EA, or EIS, including supplements and amendments thereof.

(d) Licensees must obtain a license amendment unless the change, test, or experiment is consistent with the Department's and NRC's previous conclusions pertaining to radiological safety, or the basis of, or analysis leading to, the conclusion of actions, designs, or design configuration analyzed and selected in the site or facility's SER, TER, and EIS, or EA performed by the NRC. This would include all supplements and amendments, and TERs, EAs, and EISs issued with amendments to a license. NRC's previous conclusions would include, but would not be limited to Regulatory Issues Summaries (RIS), executive orders, or information notices.

#### **Section 5. Safety and Environmental Review Panel.**

(a) Each licensee shall develop a Safety and Environmental Review Panel (SERP). The SERP's purpose is to evaluate changes to the license application, procedures, or physical processes to the criteria in Section 4 of this Chapter and determine if the action can be completed without a license amendment.

(b) The SERP shall consist of, at a minimum, the following three members that are employees of the licensee:

- (i) One member having expertise in management (e.g., Plant Manager).

This member shall be responsible for financial approval for changes;

(ii) One member having expertise in operations or construction. This member shall have responsibility for implementing any operational changes; and

(iii) One member that is the licensee's radiation safety officer (RSO) or equivalent. This member shall maintain the responsibility of assuring changes conform to radiation safety and environmental requirements. The Department may approve a qualified contractor to fulfill this role where circumstances prevent the licensee from utilizing a qualified employee. Department approval must be obtained in writing.

(c) Additional members of the SERP may include, as appropriate, individuals to address and assist with technical aspects such as ground or surface water hydrology, specific earth sciences, or other technical disciplines. Temporary or permanent members, other than the three above-specified individuals, may be consultants or contractors.

(d) The licensee shall maintain records of any changes made pursuant to this Chapter until license termination. These records shall include written safety and environmental evaluations made by the SERP that provide the basis for determining changes are in compliance with Section 4 of this Chapter. The licensee shall furnish, in an annual report to the Department, a description of such changes, tests, or experiments, including a summary of the safety and environmental evaluation of each made pursuant to this Chapter. In addition, the licensee shall annually submit to the Department any changed pages, which shall include both a change indicator for the area changed (i.e., a bold line vertically drawn in the margin adjacent to the portion actually changed), and a page change identification (date of change or change number), to the Operations Plan and Reclamation Plan of the most updated approved license application to reflect changes made under this condition.

(e) All SERP evaluations shall be made available to the Department during site inspections. The Department may review all the SERP evaluations to ensure that it concurs with the conclusions. In events where the Department disagrees with the conclusions of a SERP, an amendment application will be required. The Department may take enforcement action or issue penalties as necessary relative to the SERP evaluations.

#### **Section 6. Contents of a SERP Evaluation.**

(a) The evaluation through the SERP process must answer the items presented in Sections 4(b) and 4(c) of this Chapter. For each item the evaluation shall present their justification and this document shall be reviewed by the Department at the time of inspection for concurrence. Certain items within Section 4 of this Chapter may require a risk assessment to be performed to determine the significance of an event. Those risk assessments will be reviewed by the Department at the time of the inspection.

#### **Section 7. Exclusions to the SERP Process.**

(a) The following items shall not be approved through the SERP process and shall be sent to the Department as a license amendment for approval:

(i) Amending license conditions; and

(ii) Changes to license boundary.

(b) Wellfield data packages must be approved by the Department, but the items having a radiological nexus that do not change from wellfield to wellfield may go through the SERP process.

## CHAPTER 9

### TRANSPORTATION OF RADIOACTIVE MATERIAL

#### Section 1. Purpose.

(a) This Chapter establishes requirements for packaging, preparation for shipment, and transportation of licensed material.

(b) The packaging and transport of licensed material are also subject to the Wyoming Environmental Quality Act, Wyoming Statute §§ 35-11-2001 *et seq.* (2015), the Program's rules and regulations, and the regulations of other federal agencies (such as the U.S. Department of Transportation, the U.S. Postal Service, and the Commission) having jurisdiction over means of transport. The requirements of this Chapter are in addition to, and not in substitution for, other applicable requirements.

#### Section 2. Scope.

(a) This Chapter applies to any licensee authorized by specific or general license issued by the Department to acquire, own, possess, use, transfer, offer or receive for transport, use, or dispose of licensed material, if the licensee delivers that material to a carrier for transport, transports the material outside the site of usage as specified in the license, or transports that material on public highways. No provision of this Chapter allows for the unauthorized possession of licensed material.

#### Section 3. Incorporation by Reference (IBR) of 10 Code of Federal Regulations (C.F.R.) Part 71; Packaging and Transportation of Radioactive Material.

(a) The Department fully adopts and hereby incorporates by reference 10 C.F.R. Part 71, §§ 71.0 through 71.137, revised as of January 1, ~~2016~~2017, including all sections and any notes and appendices therein, unless expressly provided otherwise in these rules. The U.S. Department of Transportation's regulations, as cited in 10 C.F.R. § 71.5 (January 1, ~~2016~~2017), are also fully adopted and hereby incorporated by reference. These rules do not include any later amendments or editions of the incorporated matter.

(b) The following 10 C.F.R. sections, including all subparts, as of January 1, ~~2016~~2017 are excluded from these rules and are not incorporated by reference: 71.0, 71.1, 71.2, 71.6, 71.7, 71.9, 71.11, 71.13, 71.14(b), 71.15, 71.16, 71.18, 71.19, 71.22, 71.23, 71.24, 71.25, 71.31, 71.33, 71.35, 71.37, 71.38, 71.39, 71.41, 71.43, 71.45, 71.51, 71.53, 71.55, 71.57, 71.59, 71.61, 71.63, 71.64, 71.65, 71.70, 71.71, 71.73, 71.74, 71.75, 71.77, 71.81, 71.83, 71.85(a), 71.85(b), 71.85(c), 71.87(g), 71.88, 71.91(a)(5), 71.91(a)(7), 71.91(b), 71.95, 71.97, 71.99, 71.100, 71.101(c)(2), 71.101(d), 71.101(e), 71.107, 71.109, 71.111, 71.113, 71.115, 71.117, 71.119, 71.121, 71.123, and 71.125.

(c) The terms "Close reflection by water," "Critical Safety Index," "Containment System," "Deuterium," "Fissile material," "Graphite," "Maximum normal operating pressure," "Optimum ~~intersperced~~interspersed hydrogenous moderation," "Special Form," "Spent nuclear fuel" or "Spent fuel," "State," "Depleted uranium," and "Enriched uranium" as defined in 10 CFR § 71.4 as of January 1, ~~2016~~2017 are excluded from these rules and are not incorporated by reference.

(d) Any references in the federal rules adopted by reference to the United States Nuclear Regulatory Commission (NRC), or any component thereof, shall be deemed to be a reference to the Department and the Uranium Recovery Program, except when used in 10 C.F.R. §§ 71.5(b) and 71.10.

(e) Any references in the federal rules adopted by reference to the Commission's "Form 3," and as referenced in 10 C.F.R. §§ 71.9(e)(1) and 17.9 (e)(2), shall be deemed to be a reference to the Department's "Uranium Recovery Program Form 3".

(f) If, for any reason, the U.S. Department of Transportation's regulations are not applicable to a shipment of licensed material, the licensee shall conform to the standards and requirements of 49 CFR Parts 170 through 189 appropriate to the mode of transport to the same extent as if the shipment was subject to these regulations.

(g) A request for modification, waiver, or exemption from the requirements in 49 C.F.R. Parts 170 through 189, and any notification referred to in those requirements, must be filed with, or made to, the Department.

## CHAPTER 10

### GENERAL LICENSES

#### **Section 1. Purpose and Scope.**

(a) This Chapter establishes requirements for general licenses. The general licenses provided in this part are effective without the filing of applications with the Department or the issuance of licensing documents to a particular person.

#### **Section 2. Incorporation by Reference (IBR) of Federal Regulations on General Licenses.**

(a) The Department fully adopts and hereby incorporates by reference 10 C.F.R. §§ 40.21, ~~40.21, 40.22~~, and 40.26, revised as of January 1, 2017, unless expressly provided otherwise in these rules. These rules do not include any later amendments or editions of the incorporated matter.

(b) Any references in the federal rules adopted by reference to the United States Nuclear Regulatory Commission (NRC), or any component thereof, shall be deemed to be a reference to the Department and the Uranium Recovery Program.

#### **Section 3. Types of Licenses.**

(a) There are two types of licenses for source material involved in uranium or thorium recovery or milling and byproduct material: general and specific. Licenses for long-term care and custody of residual radioactive material at disposal sites are general licenses. General licenses provided in this Chapter are effective without the filing of applications with the Department or the issuance of licensing documents to particular persons. Specific licenses are issued to named persons upon application filed pursuant to these rules.

#### **Section 4. General Licenses.**

(a) A general license is hereby issued, as it relates to source material involved in uranium or thorium recovery or milling, authorizing commercial and industrial firms; research, educational, and medical institutions; and Federal, State, and local government agencies to receive, possess, use, and transfer source material involved in uranium or thorium recovery or milling for research, development, educational, commercial, or operational purposes in the following forms and quantities:

(i) No more than 1.5 kg (3.3 lb) of uranium and thorium in dispersible forms (e.g., gaseous, liquid, powder, etc.) at any one time. Any material processed by the general licensee that alters the chemical or physical form of the material containing source material involved in uranium or thorium recovery or milling must be accounted for as a dispersible form. A person authorized to possess, use, and transfer source material involved in uranium or thorium

recovery or milling under this paragraph may not receive more than a total of 7 kg (15.4 lb) of uranium and thorium in any one calendar year. Persons possessing source material involved in uranium or thorium recovery or milling in excess of these limits as of August 27, 2013, may continue to possess up to 7 kg (15.4 lb) of uranium and thorium at any one time for one year beyond this date, or until the Commission takes final action on a pending application submitted on or before August 27, 2014, for a specific license for such material; and receive up to 70 kg (154 lb) of uranium or thorium in any one calendar year until December 31, 2014, or until the Commission takes final action on a pending application submitted on or before August 27, 2014, for a specific license for such material; and

(ii) No more than a total of 7 kg (15.4 lb) of uranium and thorium at any one time. A person authorized to possess, use, and transfer source material involved in uranium or thorium recovery or milling under this paragraph may not receive more than a total of 70 kg (154 lb) of uranium and thorium in any one calendar year. A person may not alter the chemical or physical form of the source material involved in uranium or thorium recovery or milling possessed under this paragraph unless it is accounted for under the limits of paragraph (a)(i) of this Section; or

(iii) No more than 7 kg (15.4 lb) of uranium and thorium at laboratories for the purpose of determining the concentration of uranium and thorium contained within the material being analyzed at any one time. A person authorized to possess, use, and transfer source material involved in uranium or thorium recovery or milling under this paragraph may not receive more than a total of 70 kg (154 lb) of source material involved in uranium or thorium recovery or milling in any one calendar year.

(b) Any person who receives, possesses, uses, or transfers source material involved in uranium or thorium recovery or milling under a general license in accordance with this Chapter:

(i) Is prohibited from administering source material involved in uranium or thorium recovery or milling, or the radiation therefrom, either externally or internally, to human beings unless authorized by the Commission.

(ii) Shall not abandon such source material involved in uranium or thorium recovery or milling. Source material involved in uranium or thorium recovery or milling may be disposed of as follows:

(A) A cumulative total of 0.5 kg (1.1 lb) of source material involved in uranium or thorium recovery or milling in a solid, non-dispersible form may be transferred each calendar year, by a person authorized to receive, possess, use, and transfer source material involved in uranium or thorium recovery or milling under a general license to persons receiving the material for permanent disposal. The recipient of source material involved in uranium or thorium recovery or milling transferred under this Section is exempt from the requirements to obtain a license under this Chapter to the extent the source material involved in uranium or thorium recovery or milling is permanently disposed. This provision does not apply to any

person who is in possession of source material involved in uranium or thorium recovery or milling under a specific license; or

(B) In accordance with 10 C.F.R. § 20.2001, as incorporated by reference in Chapter 3 of these rules.

(iii) Is subject to applicable Sections of Chapter 4 of these rules.

(iv) Shall respond to written requests from the Department to provide information relating to the general license within thirty (30) calendar days of the date of the request, or as otherwise specified in the request. If the person cannot provide the requested information within the allotted time, the person shall, within that same time period, request a longer period to supply the information by providing the Administrator of the Land Quality Division a written justification for the request;

(v) Shall not export such source material involved in uranium or thorium recovery or milling (without approval from the Commission).

(c) Any person who receives, possesses, uses, or transfers source material involved in uranium or thorium recovery or milling under a general license in accordance with this Chapter shall conduct activities so as to minimize contamination of the facility and the environment. When activities involving such source material involved in uranium or thorium recovery or milling are permanently ceased at any site, if evidence of significant contamination is identified, the general licensee shall notify the Administrator of the Land Quality Division about such contamination and may consult with the Department as to the appropriateness of sampling and restoration activities to ensure that any contamination or residual source material involved in uranium or thorium recovery or milling remaining at the site where source material involved in uranium or thorium recovery or milling was used under the general license is not likely to result in exposures that exceed a total effective dose equivalent of 25 mrem (0.25 mSv) per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are ALARA. Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.

(d) Any person who receives, possesses, uses, or transfers source material involved in uranium or thorium recovery or milling in accordance with a general license under this Chapter is exempt from the requirements of Chapter 3 and 5 of these rules to the extent that such receipt, possession, use, and transfer are within the terms of the general license, except that such person shall comply with the provisions to the extent necessary to meet the provisions of Section 4(b)(ii) and (c) of this Chapter. However, this exemption does not apply to any person who also holds a specific license.

(e) No person may initially transfer or distribute source material involved in uranium or thorium recovery or milling to persons generally licensed under Section 4(a)(i) and (ii) of this

Chapter, unless authorized by a specific license. This prohibition does not apply to analytical laboratories returning processed samples to the client who initially provided the sample. Initial distribution of source material involved in uranium or thorium recovery or milling to persons generally licensed by the Commission before August 27, 2013, without specific authorization may continue for one (1) year beyond this date. Distribution may also be continued until the Commission takes final action on a pending application for license or license amendment to specifically authorize distribution submitted on or before August 27, 2014.